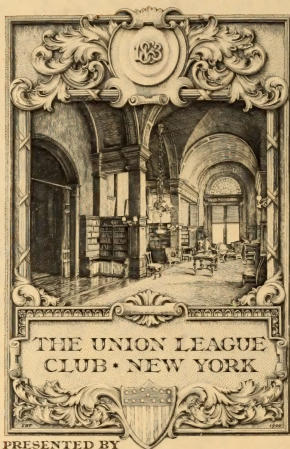


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A HISTORY
OF
REAL ESTATE, BUILDING
AND
ARCHITECTURE
IN
NEW YORK CITY
DURING THE LAST QUARTER OF A CENTURY

THE UNION LEAGUE CLUB,
NEW YORK.

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RECORD AND GUIDE
14 AND 16 VESEY STREET
NEW YORK

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A Review of the History of Real Estate on Manhattan Island.

I.—THE DUTCH PERIOD.



CONTEMPORARY writer affirms that the idea of searching along the American coast for a passage to India was "suggested to Hudson by some letters and maps which his friend Captain (John) Smith had sent him from Virginia, and by which he informed him that there was a sea leading into the Western Ocean by the north of Virginia." Under the auspices of the Amsterdam chamber of the Dutch East India Company, Henry Hudson, in 1609, made an attempt to discover this passage. His adventure failed of its principal object. But the merchants of Amsterdam were quick to recognize the importance to the fur trade of the river and country which he explored. Vessels privately despatched to the Great River realized handsome profits, and certain houses engaged in this trade established a station on the south point of Manhattan Island in 1613. About the same time a stockade, called Fort Nassau, was erected on an island in the Great River, near the present site of Albany.

The Dutch government soon after published a decree giving to persons who should discover new lands the exclusive privilege of trading to such parts, the privilege being limited to four voyages. Under this enactment a fleet of five vessels was sent on a voyage of exploration in American waters, and from the journals and surveys of the several ships a large stretch of country was mapped, over which the government of Holland proceeded to claim jurisdiction. The owners of the vessels, comprising some, at least, of the merchants who had been active in the establishment of Fort Nassau and the station on Manhattan Island, thereupon received a grant of the

monopoly of trade with New Netherland for four voyages, to be completed within three years of January 1, 1615. The grantees constituted a corporation, known as the United New Netherland Company, and it was in the charter creating this corporation that the territorial designation New Netherland was first officially employed. On the expiration of its charter, the company secured a continuance of existence, though not with the former monopoly of trade, for two, possibly three, years under a special annual license.

The United New Netherland Company possessed no interest in the soil, and made no attempt at colonization. However, it served a useful purpose by demonstrating the commercial value of the country, and thereby persuading, though much against its own will, the Dutch government of the expediency of entrusting New Netherland to a stronger corporation for colonial development.

The Dutch West India Company, chartered in 1621, possessed a monopoly of trade on the coasts of both Americas. The company was a commercial federation, with chambers in the principal cities of Holland. To each chamber was assigned a specific territory, with the exclusive rights of trade and government appertaining thereto. New Netherland, extending from the Virginia plantations to New England, and from the coast inland indefinitely, became the property of the Amsterdam chamber. The title of the Dutch government to this magnificent domain was not undisputed by other nations, and the English had already on one occasion enforced the temporary submission of the factors at the mouth of the Hudson. This circumstance, no less than the terms of its charter, compelled the West India Company to secure its territorial interest by a substantial colonial establishment. The company's pioneer vessel, in 1623, landed a band of colonists on the river bank, near the site of Albany, where Fort Orange was erected for their protection, the older stockade having already disappeared. A smaller band was put ashore on Manhattan Island, and both settlements were augmented by fresh arrivals from Holland during the following two years, while new establishments were begun at other points.

Fort Orange and the Manhattan post were wisely located from a military as well as commercial standpoint. The former lay at the

head of ship navigation, where two great Indian trails met, the one coming down from the St. Lawrence by way of Lake Champlain and Lake George, the other running through the Iroquois country to the Great Lakes. The Manhattan post, on the other hand, commanded the entrance to the Hudson River, and thus secured for the Dutch a monopoly of the most important water-way on the eastern coast of America.

Peter Minuit, the first director-general of New Netherland, arrived at his seat of authority on Manhattan Island in 1626. His first important act was the purchase of the island from the Indians for sixty guilders, or twenty-four dollars, after which he set about the erection of a fort and the organization of a town, which received the name of New Amsterdam. From the year of Minuit's arrival we may properly date the colonial existence of New York City, for in that year the essential elements of a continuous municipal life were first assembled.

Probably the first public improvement undertaken at New Amsterdam was the erection of a stronghold intended to withstand not only the primitive weapons of the Indians, but the bombardment of cannon as well. Fort Amsterdam was planned by Kryn Fredericke, a military engineer who accompanied Peter Minuit, and who "had in mind the creation of works of sufficient magnitude to shelter in time of danger all the inhabitants of a considerable town." The site chosen was the area now enclosed by Bowling Green, Whitehall, Bridge and State streets. The fort, which was begun in 1626 and finished in 1635, was about 300 feet long and 250 feet wide. Its walls, originally constructed of earth and faced with sods, were, before their completion, strengthened at salient points by masonry work of "good quarry stone." The space within the fort was eventually occupied by the governor's residence, the several offices connected with the government, the soldiers' barracks, and a church. Outside the walls clustered the private houses, constructed for the most part of logs and bark; and here also were the company's warerooms, built of stone, and a mill, whose upper story was used temporarily as a church. In 1628 the population of New Amsterdam comprised two hundred and seventy souls.

This was a meagre body, compared with the seven hundred emigrants who settled at Boston, under Winthrop, in 1630, or with the four thousand people living on the banks of the James, in 1622. It is evident that neither the economic nor the religious conditions obtaining in Holland were such as to induce emigration on a large scale. The company, as a matter of fact, experienced difficulty in securing settlers for New Netherland, and this circumstance led to the adoption of a somewhat drastic measure for enlisting the energies of wealthy members of the corporation in the work of colonization. In 1629, a Charter of Privileges and Exemptions was published, creating "all such" of the directors and possibly also of the shareholders, "patroons of New Netherland," who should "within the space of four years undertake to plant a colony there of fifty souls upwards of fifteen years old." Each patroon received in absolute property sixteen miles of territory fronting upon the sea or on one side of any river in New Netherland, or eight miles fronting on both sides of a river, the extent back from the water being practically unlimited; and over every such estate the owner was invested with manorial rights. Under the stimulus afforded by this charter, settlements were quickly made on both banks of the Hudson and on the shore of the bay. The commercial supremacy of the capital was assured by a grant of staple rights, in accordance with which all vessels engaged in local trade were compelled to discharge cargo at the fort or pay compensating port charges.

The Charter of Liberties and Exemptions expressly prohibited the establishment of patroonships on Manhattan Island, thereby reserving to the provincial capital ample space in which to develop. At first the city was allowed to grow without any definite plan. Each settler was permitted to build his house where he pleased, and to surround it by an enclosure of any convenient shape and size. Land was apparently occupied by unwritten sanction, for an undated paper preserved among the Dutch West India Company's documents reads as follows: "Divers freemen request by petition to the council conveyance of the lands which they are cultivating at present. The request of the petition is granted on condition that they shall, after the expiration of ten years from the commencement of

their plantations, annually pay to the company the tenth of all the produce which God shall bestow on the land; also, in future, for a house and garden, a couple of capons yearly." It was not until 1642, when Andreas Hudde was appointed surveyor, that formal grants began to be made of town lots, and probably no title for building sites below Wall street can be traced through individual proprietors beyond that date. We may, therefore, accept this year as a convenient point of departure for a more detailed description of the physical progress of the city.

At the period in question two main roads connected the town of New Amsterdam with the outside world. One, beginning at the principal gate of the fort, which opened upon the Bowling Green, led northward along the line of the present Broadway, Park Row, Chatham street and the Bowery; and, later, along the Old Post or Boston road. The other led from the fort, along the present Stone and Pearl streets, to the Brooklyn ferry, near which is now Peck slip.

On the line of the present Broad street, with a roadway on either side, a canal extended as far as Beaver street, where it narrowed to a ditch. The ditch and canal drained a swamp that stretched northward to about the present Exchange place. On the line of Beaver street, running east and west, were lateral ditches, which emptied into the main canal, and whose banks also afforded a convenient roadway. The swamp, having been converted into a meadow by drainage, became known as the Sheep Pasture. Bridge street derives its name from a wooden passageway that crossed the Broad street canal, or Heere Graft.

The four streets, Pearl (including Stone), Broadway, Broad and Beaver, none of which was paved, were the only important public thoroughfares in New Amsterdam about the year 1642. Pearl street followed the East River shore, for South, Front and part of Water street have since been reclaimed by filling in beyond the primitive line of high tide, as have also Greenwich, Washington, and West, on the North River. Pearl street, communicating with the populous Long Island settlements, was a well-traveled highway, and Cornelius Dirksen, the first ferryman of whom the records speak, appar-

ently did a thriving business, for he owned much land in the neighborhood of Peck slip.

In Broad street were centered the great commercial interests of New Amsterdam, for here were the homes and places of business of the leading merchants. Upon the banks of the canal in Broad street, lighters discharged and received the cargoes of ships lying at anchor in the stream. Furthermore, between Broad and Whitehall streets, on the line of the present Moore street, lay the only wharf in town, which, however, was no more accessible to seagoing vessels than the canal. Next in importance as an artery of commerce was the canal in Beaver street, which probably received its name from the trade in beaver skins which was mainly carried on here.

The trend of development even at this early period was toward the east and north, along the East River. Population centered around the shipping and trading interests, and these grew up on the East River, in preference to the Hudson, for the reason that the salt water of the former did not freeze over in winter. Broadway was originally merely a road through fields owned by the West India Company. It was not until 1642 that lots began to be granted to individuals in this avenue, chiefly on the east side, below the present Wall street. Prior to the arrival of Stuyvesant in 1647 the west side of Broadway, between the present Bowling Green and Trinity Church, at the head of Wall street, was occupied solely by a burial ground and by the gardens and dwellings of Vandegrist and Van Dyck. The speculative value of property on the avenue seems, however, to have been appreciated, for very few of the original grantees improved their lots, but sold them in after years to actual settlers.

Private houses at this early period were mostly constructed of boards or logs, roofs and sides being covered with bark or thatch. Many of the buildings erected by the company were, however, of a more durable character. A group of five stone warehouses stood on the present Whitehall street, fronting westward, an open space of over a hundred feet in width lying between the warehouses and the fort. Part of this space was afterwards built upon, leaving a small

street in front of the stores called Winckel or Store street, and extending from Bridge to Stone street. The company's bakery stood on Pearl street, near Whitehall; the company's brewery, on the north side of Bridge street, between Broad and Whitehall. The first church was commenced in 1633, religious services having previously been conducted in the second story of the company's horse-mill. The church was of frame, and stood in Broad street, at the junction of Pearl and Bridge, where it still existed a century later as a store and dwelling. It was outgrown as a place of worship in 1642. In that year a stone church, fifty-two by seventy-two, and sixteen feet high, was built within the fort at a cost of, say, one thousand dollars, and it is curious to note that the contractors were John and Richard Ogden, of Stamford, Conn. The church front contained a marble slab with the inscription: "Anno, 1642. William Kieft, Directeur General Heeft de gemeente Desen Tempel doen bouwen." At the close of last century this tablet was discovered buried in the ground on the site of the fort, and was deposited in the belfry of the Dutch church in Garden street (Exchange place), where it was lost or destroyed in the fire of 1835. The year 1642 also witnessed the completion of another important building operation, "a fine stone tavern," constructed for the company on the northwest corner of Pearl street and Coenties alley, to accommodate travelers from New England and the Long Island settlements. Except farmhouses, this was one of the first buildings constructed east of Broad street. It was ceded to the city on the organization of a municipal government in 1653, when it became the Stadt Huys, and continued in use as a city hall until the closing year of the century.

The fort and village proper covered only part of the region below what is now Wall street. The rest was occupied by the cultivated fields of the company and by private bouwerics. The price of building lots was almost nominal, as is shown by the earliest private deed on record illustrating the value of property. In 1643 Abraham Jacobsen Van Steenwyck conveyed to Anthony Jansen Van Fees, for twenty-four guilders (\$9.50), a lot on Bridge street, between Broad and Whitehall, having a frontage of thirty feet and a depth of one hundred and ten. This piece of land was, perhaps, as valuable as any in town.

In 1653 two measures were perfected, which had an important bearing on real estate, namely, the incorporation of New Amsterdam as a municipality, and the fixing of the city's northern boundary by the erection of a stockade on the line of the present Wall street. The erection of the palisade was occasioned by the breaking out of hostilities between England and the United Provinces, and the consequent threat of an invasion from New England. The means of defense provided by the company was wholly inadequate for the protection of the city, and imperious Governor Stuyvesant found himself constrained to fall back for support on the newly created town magistracy. The fort had long since been outgrown, and was no longer capable of sheltering the population. At a conference between Stuyvesant and his provincial council with the local magistrates the latter, therefore, after some hesitation, consented to the imposition of a municipal tax for the purpose of protecting the land side of the town by a wall across the island. This wall, when completed, extended from river to river, and was built of posts, twelve feet in height and seven inches in diameter. Inside the stockade was an embankment which enabled the garrison to overlook the wall, and here also was a level space which eventually became known as the Cingle or Wall street. The threatened invasion from New England did not take place, and as no occasion arose to test the military value of the wall, its erection proved to have been ill-advised. For nearly half a century its effect was to restrain the natural northward growth of the city.

The order of the Amsterdam Chamber of the West India Company authorizing the creation of a municipal government for Manhattan Island, directed that the new magistracy should be modeled after that of Amsterdam, and should be filled by popular election. It was characteristic of Stuyvesant's arbitrary mode of government that he retained the appointment of the magistracy in his own hands, and refused altogether to fill the most important office—that of schout. The magistracy, as appointed by him, comprised two burgomasters and five schepens, holding office for one year. But despite its political insignificance, the new municipal government exer-

cised a beneficial influence on affairs relating to the physical appearance and growth of the town.

Little regard had been paid to boundary lines in the erection of houses up to the time of Stuyvesant's arrival. Stuyvesant, soon after taking office, appointed surveyors of streets and buildings, who were empowered to prevent the erection of unsightly and improper buildings, and to regulate street lines according to the land patents. No building could be erected without plans having first been submitted to the surveyors, and approved. The condition of the streets at this time appears from the following ordinance: "The roads and highways here are rendered difficult of passage for wagons and carts on account of the rooting of the hogs; therefore, it is ordered that the inhabitants put rings through the noses of all their hogs. It has been seen that goats and hogs are daily committing great damage in the orchards and plantations around Fort Amsterdam; therefore, it is ordered that these animals be kept in enclosures." The municipal government, as soon as supplies had been voted for protection against New England and for the conquest of New Sweden, turned its attention to town improvements. In November, 1655, the magistrates notified Governor Stuyvesant of the presence of many refugees (probably Swedes from the Delaware), who, with others, were requesting building lots on which to erect permanent dwellings; and asked that a survey of the city be made, with a view to the distribution of unoccupied land. This action on the part of the magistrates resulted in the appointment of a committee, consisting of the regular street surveyors, Burgomaster Allard Anthony, and Councilor La Montagnie, with power to make a survey of the city, open streets, and assess the price of lots.

The survey, accompanied by a map now lost, was submitted to the Governor and his council in February, 1656. The corrected street lines were marked with stakes, and owners injured by the straightening of streets were directed to apply for compensation to the burgomasters, who also had charge of the distribution of lots. The burgomasters were empowered to determine what streets and lots should first be built on. The distribution of land did not apparently prove as effective in promoting improvements as the au-

thorities expected, for two years later many vacant lots were still to be found within the city limits. Such lots were now taxed at the rate of the fifteenth penny of their value, as appraised by the owners; and the burgomasters were authorized to take any lot at the owner's valuation, if not improved, and grant it to another.

The streets established by the survey of 1656 were T'Marckvelt (Whitehall street, Broadway and Battery place on the several sides of the Bowling Green, which was then a public market), T'Marckveldt Steegie (Marketfield street), De Heere Straat (Broadway, between the Bowling Green and Wall street), De Hoogh Straat (Stone street, between Broad and William, and Pearl street, north side, between William and Wall), De Waal (Wall street, between Pearl and Broadway), T'Water (Pearl street, north side, between Broad and Whitehall), Perel Straat (Pearl street, between Whitehall and State), De Brouwer Straat (Stone street, between Broad and Whitehall), De Winckel Straat (now closed, ran from Stone to Bridge, between Whitehall and Broad), De Brugh Straat (Bridge street, between Broad and Whitehall), De Heere Graft (Broad street, between Beaver and Pearl), De Prince Graft (Broad street, between Beaver and Wall), De Prince Straat (Beaver street, between Broad and William), De Beever Graft (Beaver street, between Broad and Broadway), De Smee Straat (William street, between Maiden lane and Hanover square), and De Smit's Valey (Pearl street, between Wall street and Franklin square).

In 1657 property owners in Brouwer street, so called from the breweries which it contained, petitioned the burgomasters to have a pavement of cobble-stones laid in that thoroughfare, and the records show that the cost of the improvement was assessed on the residents in the street. This was the first pavement laid in New Amsterdam and the fact is commemorated in the name, Stone street, which the thoroughfare now bears. Winckel street, which has long since been closed, but which ran from Broad street diagonally through the blocks where the Mills Building and the United States Custom House now stand, was paved, as was also Bridge street, in 1658. These pavements were without sidewalks, and were drained by a gutter in

the middle of the road. An ordinance of 1660 ordered the residents on either side of the ditch, or canal, in Beaver street to pave the road in front of their own doors as far as the edge of the water. The Heere Graft, in Broad Street, was, as we have seen, the main artery of commerce. The construction of sidings of wood to prevent its banks from caving in was commenced in 1657, and at the same time ordinances were issued against throwing filth and offal into the water, with heavy penalties for their violation. The construction of the sidings, on which three laborers were employed during the open season, was completed in 1659. The roadway on either side of the canal was subsequently paved at a cost of 2,792 florins (\$1,096.80).

It is difficult to realize at the present day that Pearl Street was at one time exposed to the encroachment of the East River. High tide sometimes made access to the Stadt Huys almost impracticable. For this reason the construction of a siding of wood in front of the City Hall was begun by the public authorities in 1655, similar improvements having already been made by individual property owners at various points along the shore. To secure a continuous barrier against the water the following ordinance was published in that year: "Whereas, the sheeting in front of the Stadt Huys (near the present Coenties Slip), and before the City Gate (at Wall street), on the East River, and some other places thereabout, is finished, and some is also begun by others; therefore, for the uniformity of the work, all who have houses on the water side, between the Stadt Huys and the gate are ordered to line the banks with plank." This ordinance was the first of the public measures which have resulted in the addition of several blocks on either river to the lateral extension of the island, as well as to its southern extremity.

In a place where the houses, including chimneys, were mostly of wood, fire was a constant and threatening source of danger. Already before 1628 the settlement was almost completely destroyed by a general conflagration. Nevertheless, no adequate measures for the prevention and extinction of fires were taken until after the creation of the municipal government. In January, 1648, Governor Stuyvesant published an ordinance appointing fire-wardens and prohibiting

the use of wooden chimneys in houses between the fort and the Collect, or Fresh Water Pond, which occupied several acres in the neighborhood of and including the site of the Tombs Prison. Fines were imposed on owners who refused to alter their chimneys, or in whose houses fires occurred, and the proceeds of the fines were applied to the purchase of fire-ladders, buckets, and hooks. In September of the same year the power of the fire wardens was enlarged, and they were directed to visit every house to see that chimneys were properly cleaned. These ordinances were never properly enforced, however, and ten years later wooden chimneys were still the rule. By an ordinance of December 15, 1657, thatched roofs and wooden chimneys were ordered removed, and the city magistrates were authorized to collect from every house, great and small, one beaver or eight florins in wampum (\$3.20) for the purpose of procuring two hundred and fifty leathern fire buckets, also hooks and ladders. The ordinance further established a yearly tax of one florin for every chimney within the jurisdiction of the burgomasters and schepens. The buckets, properly numbered, were, in January, 1659, distributed throughout the town, fifty being placed in the Stadt Huys, twelve at the inn of Daniel Litschoe (near the intersection of the present Pearl and Broad streets), and another dozen at the house of Abraham Verplank (near the present Custom House).

No systematic policing of the city was undertaken during the Dutch regime, although Governor Stuyvesant issued ordinances against fighting with knives (1647), against fast driving (1652), and against shooting with firearms at partridge and other game within the city limits (1652). A temporary night-watch was maintained by the magistrates in 1653, during the trouble with New England. Five years later a permanent night-watch was established—nine men serving in detachments of four each night, the pay of each man being 48 cents for every night on duty, besides a gift of one or two beavers and a quantity of firewood. Otherwise order was enforced, on occasion, by the garrison at the fort.

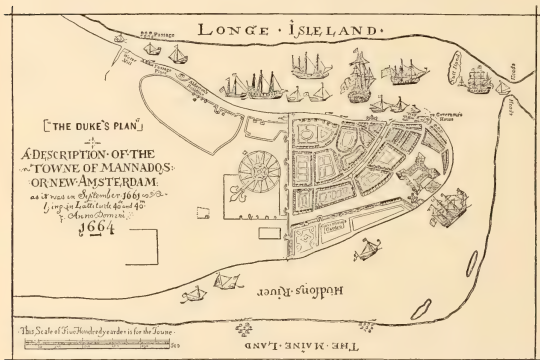
There was no regular post between New Amsterdam and the other Dutch settlements, chief among which were the Esopus District, Fort Orange, Fort Nassau on the Delaware, and the Long

Island towns. But as to the transatlantic mails, the directors of the Amsterdam Chamber wrote to Governor Stuyvesant in 1652: "For the accommodation of private parties who often give their letters for New Netherland to one or the other sailor or free merchants, from which practice result many delays in the delivery of letters and subsequent losses to the writers and their friends there, the letters being laid in the bottom of chests or the bearers going to other places, we have fastened a box at the new warehouse, where we now hold our meetings, for the collection of all letters, to be sent out by the first ship sailing. We have deemed it advisable to inform you thereof, so that you may do the same in New Netherland, and send the letters, for the sake of greater safety, in a bag addressed to us. We shall hand them to whom they belong. People expecting letters usually come to the warehouse."

Unrivaled in geographical position, New Amsterdam was from the beginning a trading city. European and coastwise commerce was attracted by one of the finest natural harbors in the world, while innumerable rivers and inland waterways made the interior accessible in every direction. Despite harrassing trade restrictions—the company's attempt at monopoly was abandoned in 1642—New Amsterdam rapidly developed into an emporium of commerce for the Western World. To the mother country it exported tobacco and especially furs, namely, the skins of beaver, mink, deer, otter lynx, the elk, the panther, and the fox. From Holland came French and Spanish wines and brandy, leather, meat, bacon, malt, nails, lead, butter, linen and woolen stuff, oil, soap, tiles, bricks, iron rods, casks, cordage, candles, salt, spices, tar, and agricultural and domestic implements. Wheat, pork, beer, fish, and wine were carried to Virginia, for which tobacco was received in exchange. To the West Indies and the Dutch colonies at Curaçoa and Brazil were sent the various kinds of goods obtained from Holland, besides Indian corn and baked bread and biscuit, dried fish, salt meat, and lumber, return cargoes, consisting of sugar and Barbados rum. A prosperous trade was also maintained with New England and the Dutch settlements on the Hudson, the Delaware, and Long Island.

II.—THE ENGLISH COLONIAL PERIOD.

Peter Stuyvesant, the last of the four Dutch director-generals of New Netherland, surrendered to the English under Richard Nicolls, August 29, 1664. According to the Chevalier Lambrechtsen, the province contained at that time a population of about 10,000 souls, exclusive of Indians, and comprised three cities and thirty villages.



By Permission From the New York History Co.

The capital city is described in a map forwarded by the conquerors to the new proprietor, the Duke of York, in whose honor the city and province were renamed New York. The "Duke's Plan" was copied from an earlier Dutch map, probably a secondary edition of the survey of 1653, and bore the title "A Description of the Towne of Mannados, or New Amsterdam, as it was in September, 1661. . . . Anno Domini, 1664." Its northern limit is where the present Roosevelt street now runs, where Wreck Brook then discharged the waters of the Collect into the East River, crossing the region still familiarly

called The Swamp. North of the palisade at Wall street, the "Duke's Plan" shows but twelve buildings. Among these were Isaac Allerton's storehouses, which were south of the "passage place" to Brooklyn, situated where now is Peck slip. Below the wall the only complete block was that between Bridge and Stone streets, between which then ran the Winckel Straat, along which stood the West India Company's stone warehouses. What is now the Battery was merely a reef of scragged rocks, frequently covered by the tide. The Hudson on the west came up to the hill on which stands Trinity Church, while the East River flowed along Pearl street almost to Broadway. The westerly side of the town, from the Bowling Green, northward, and from the Hudson River to Broadway, was covered with orchards and gardens. Wolfert Webber's tavern, near the present Chatham square, was the last habitation that one passed on the highway to Harlem. The population of the city was about fifteen hundred, chiefly Dutch.

The leniency of the conquerors and the essential similarity between Dutch and English institutions prevented any serious injury to the material interests of the colony as a consequence of the transference of power. Ten months were allowed to elapse before the government of New York City was altered (June 22, 1666,) and the change involved in the substitution of a sheriff, a board of aldermen, and a mayor for the schout, burgomasters, and schepens was more in name than in reality, as the personnel of the new government remained for the most part that of the old. The temporary repossession of the colony by the Dutch in 1673-74 produced no lasting effects.

An early result of the English occupation was the opening up of a post road to facilitate intercourse between New York and Boston. The wagon road to Harlem was perfected in 1672, and formed the beginning of what became known as the Boston Post Road. A monthly mail was established in January of the following year, the postrider picking his way beyond Harlem through the primeval wilderness. In 1678, agreeably to his instructions "by all means to chiefly encourage the city of New Yorke," Governor Dongan procured the enactment of the Bolting and Baking Act, which granted a

monopoly in the bolting of flour, and in the packing of flour and biscuit for export, to the residents of the provincial capital. No mill outside the city was permitted to grind flour for market, nor was any person outside the city permitted to pack breadstuffs in any form for sale. The effect of this act was to throw the export trade in breadstuffs, mainly with the West Indies, exclusively in the hands of the millers and merchants of New York. Outside the city the monopoly was denounced as injurious to the interests of the colony as a whole, and repeated attempts were made in the Provincial Assembly to have the odious law repealed. Nevertheless, it remained in force sixteen years, during which time it more than met the expectations of its promoters as a stimulus to the growth of the city.

In a petition presented against the repeal of the Bolting and Baking Act we find some statistics illustrating the city's expansion under its influence. When the law was enacted, in 1678, the total number of houses in New York was 384; the number of beef cattle slaughtered was 400; the sailing craft belonging to the port aggregated three ships, seven boats, and eight sloops; and the total annual revenues of the city did not reach £2,000. When the act was repealed, in 1694, there were said to be 983 houses; nearly 4,000 beef cattle were slaughtered, most of them exported; the sailing craft comprised 60 ships, 40 boats and 25 sloops; and the city's revenues were more than doubled. Six hundred of the 983 buildings in the city, the petition states, were connected with the prosperity of the trade in flour. The arms of New York, when the stimulated trade was at its height (1682), therefore, appropriately bore, along with the beaver, the sails of a windmill and two flour barrels as emblems of the foundation of its new prosperity.

Comparison of a map prepared in 1695 with the Duke's Plan reveals most graphically the city's progress in the intervening years. In 1664, fully one-third of the street-fronts below the palisade were not built upon, and only twelve buildings had been erected outside. By 1695 nearly all the street fronts in the city proper were improved, and new streets laid out north of the wall almost doubled the city. The trend of improvement, however, was toward the north and east, as there is nothing to show that the streets west of Broadway were

evident except upon the map; and no houses seem to have been built west of what is now William street. At an auction sale of lots near Coenties slip, we find that £35 was paid for each of fourteen lots sold in 1689. In Broad street values were still higher, owing to the filling up of the canal, which was ordered in 1676, and the construction at its foot of the Wet Docks—two basins that afforded harborage for the trading vessels that flocked to the port. About this time two new wharves were also built on the East River front, Broadway was graded and laid out as far as the present City Hall Park, and seven public wells were sunk in the streets in different parts of the city as a protection against fire. In view of these evidences of commercial expansion it is not surprising to find that a lot at the foot of Broad street, in the heart of the mercantile district, was thought well worth £80.

Under the Bolting and Baking Act large investments had been made in shipping, which could not be withdrawn. The repeal of the act had the effect of stimulating enterprise to prevent a loss of this capital. The coastwise trade and the trade with the West Indies became brisker than ever, though the profits on individual transactions were smaller. Provisions shipped from New York were exchanged for West Indian products; these were carried to England, where manufactured goods were received in return, and brought to New York. Not all the business of the port was of this prosaic nature. During the century of practically unbroken war that began with the accession of William III., privateering, with occasional ventures in piracy, was a favorite enterprise with the merchants of New York.

Privateering at that period was a legitimate arm of war. But the step from privateering to piracy was easily made. Once at sea with the king's commission to plunder hostile nations, privateers were sorely tempted, in the absence of proper prizes, to despoil merchantmen indiscriminately. Piracy was carried on under the cloak of war, and the principal merchants connived at the practice. Putting to sea as a privateer, the pirate bore away for the Arabian Gulf, the Red Sea, or the Indian Ocean, where the galleons of the British and Dutch East India Companies fell an easy prey, with their rich car-

goes of Oriental fabrics, spices, gold, and gems. The booty was entered at the Admiralty Court at New York as lawful spoil of war, or it was carried to Madagascar, where merchantmen from New York would repair to barter supplies for the stolen goods.

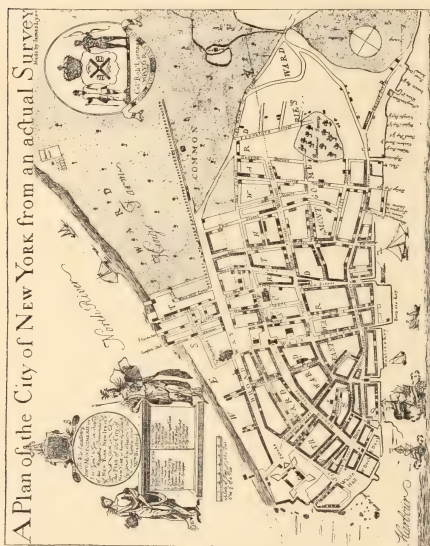
New York, at the close of the seventeenth century, contained a population of 5,000, the Dutch and English being nearly equal in number, some French, Swedes and Jews, while there were about 800 negroes, mostly slaves. By the year 1732, the population had been increased by an additional 3,600 inhabitants. In the same year we find prices of lots on Whitehall street stated at from £150 to £200—a material increase. According to the Swedish traveler, Peter Kalm, over two hundred vessels entered and an even larger number cleared from the harbor between December 1, 1729, and December 5, 1730. The following table, compiled in November, 1729, and covering the period from Christmas to Christmas in each year, gives an idea of the volume of foreign commerce conducted at New York, and of the favorable balance of trade enjoyed by the port:

Years.	Imports.	Exports.
1723-24	£21,191	£63,020
1724-25	25,316	70,650
1725-26	38,707	84,850
1726-27	31,617	67,373
1727-28	21,005	78,561

The city as it was at this time is shown on a map entitled "Plane of New York in 1729, Surveyed by James Lyne." In this, as in earlier maps, the trend of development toward the northeast is distinctly emphasized. Several causes united to retard the improvement of the westerly side of the island. The business of the city was transacted along the East River. Here, the shipping of the port was harbored, because the East River, an arm of the sea, seldom freezes. Here were the ship-yards and the warehouses; and here also the Brooklyn ferry and the field of competition for the Long Island trade.

Broadway was remote from the industrial activities of the town. The few dwellings that were erected along this future great thor-

oughfare did not venture above Liberty, then called Crown street. There were only open fields westward, above this line. These comprised the estate known originally as the Company's Farm, tilled for the benefit of the Dutch West India Company's servants, and bounded by the present Fulton and Warren streets, Broadway and



Lyne's map, 1744. By Permission From the New York History Co.

the North River. The farm passed to the Duke of York, by the conquest, was extended northward, by purchase from the Annetje Jans heirs, to Charlton, or perhaps Christopher street, and was afterwards known as the King's, and later Queen's Farm. Queen Anne granted the property to the Episcopal Church in New York in 1705. The church ownership of this property was one of the factors which

tended to retard the development of Broadway, for so long as building sites conveniently located could be had in fee simple no one cared to improve leasehold land.

By the middle of the century, however, the city's expanding com-



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merce was evidently beginning to create a need for the improvement of leasehold property also. Maerschallck's map of 1755 shows streets laid out through the southern part of the Church Farm, and locates twenty-five buildings between the present Liberty and Warren streets. But the trend of development was still toward the northeast

Advance up the middle of the island was prevented by the Collect, or Fresh Water Pond; on the westerly side, by Lispenard's Meadows, a marshy valley, and a stream carrying the overflow from the Fresh Water Pond into the North River. The upper part of Broadway was merely a lane ending near the present Leonard street; and it was not until the opening of the road leading to Greenwich Village, anterior to 1760, that the west side possessed any thoroughfare that could become a line of development.

On the easterly side, however, ran the Boston Post Road, connecting the city with the populous regions inland from Long Island Sound. Over this highway, since 1732, came and went the monthly stage to New England. According to Ratzer's map, country seats lined this road in 1767 up to Madison square, and a small village had sprung up at its intersection with Monument lane. Of this lane, which led to Greenwich, two sections survive in the present Astor place and Greenwich avenue.

KEY TO MAP OF NEW YORK, SHOWING FARMS AND ESTATES.

NOTE.—The explanation of the numbers, which is taken, by permission, from the "Memorial History of New York," covers only the most important features or estates.

1. Extent of the city under the Dutch governor; wall along Wall Street.
- 2, 4, 5, 6, 12. Comprising what was known at different periods as West India Company's, Duke's, King's, Queen's farm; ceded to Trinity Church in 1765.
7. The Shoemaker's Pasture (the Dutch Church property included in the tract.)
10. Beekman's Pasture.
11. The Fields or Common.
- 12¹/₂. Negro burying-ground.
13. Estate of Jacob Leisler.
14. The Swamp, a section still known by that name.
17. The Roosevelt farm.
18. The Janeway estate.
19. Kolk Hook.
- 20, 21. The Kolk, Collect, or Fresh Water Pond.
25. The Dominie's Hook, or Anneke Jans's farm.
26. Lispenard meadows.
27. The Rutgers farm.
- 35 A and B. De Lancey's east and west farms.
36. The Bayard farm.
37. Another portion of the Anneke Jans farm.
39. Bleeker's estate.
- 48, 50, 51, 52. Property of the Stuyvesants.
55. Belonging to Sailors' Snug Harbor.
56. The Brevort estate.
64. Krom Messie (crooked little knife), corrupted into Grammercy; so-called from the resemblance of the shape of this property to that of a shoemaker's knife.
65. Rose Hill farm.
66. Estate of John Watts.
67. Estate of Admiral Sir Peter Warren, called Greenwich; the Indian name of the point of land here was Sapokanigan.
- 67 D. Estate of George Clinton and John Jacob Astor.
73. Estate of Bishop Moore.
74. Clarke estate.
76. Known as the Horn estate, originally patented by Sir Edmund Andros to Solomon Peters, a free negro, whose widow and heirs conveyed it to John Horn; held by Horn's descendants till recently.
86. Kip's Bay farm.
87. Murray Hill estate.
- 89, 93. John Slidell, formerly President of the Mechanics' Bank.
92. Estate of James A. Stewart.
- 98¹/₂. Estate of "Citizen Genet," the French Ambassador in 1794, who married Governor Clinton's daughter.
100. Estate of Richard Harrison.
107. Glass House farm, formerly belonging to Sir Peter Warren.
- 110, 116. Ingleberg, where, 1776, General Howe and staff were entertained during the retreat of the American troops from New York.
111. The Grange, country seat of John Murray, Jr.
122. Turtle Bay, or Deutel Bay, farm.



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III.—FROM THE DECLARATION OF INDEPENDENCE TO THE OPENING OF THE ERIE CANAL.

The British, driven from Boston and alarmed by the general uprising throughout the colonies, determined to concentrate their forces at New York. Having control of the sea, they hoped, by obtaining possession of the Hudson Valley, to prevent co-operation between the northern and southern colonies. The plan was brilliantly conceived, but was utterly defeated by the surrender of Burgoyne at Saratoga. This event proved the turning point in the war, although with the assistance of a large fleet the British were enabled to hold New York from September 15, 1776, to November 25, 1783.

During this period of occupation the population of the city decreased from 25,000 to probably half that number. Its commerce, comprising about one-tenth of the combined foreign trade of the American colonies, was completely destroyed, while two great fires added to the suffering caused by the stoppage of business. Six days after the entrance of the enemy, namely, on September 21, the westerly side of the town was visited by a conflagration, probably of accidental origin, which is thus described in the diary of the resident Moravian pastor, Ewald Gustav Schaukirk: "In the first hour of the day, soon after midnight, the whole city was alarmed by a dreadful fire," which "raged all the night and till about noon. The wind was pretty high from the southeast and drove the flames to the northwest. It broke out about White Hall, destroyed a part of Broad, Stone and Beaver streets, the Broadway, and then the streets going to the North River, and along that river as far as the King's College. Great pains were taken to save Trinity Church, but in vain; it was destroyed, as also the old Lutheran Church; and St. Paul's, at the upper end of Broadway, escaped very narrowly." Four hundred and ninety-three houses were laid in ruin. Two years later another fire destroyed almost the whole of the block south of Pearl street, between Coenties and Old Slips.



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During the Revolution most of the patrician families remained loyal to the king. On the withdrawal of the British troops they were overtaken by the same fate which, at the beginning of hostilities, had been meted out to the Whig leaders—they were driven from the city and their estates confiscated. The exodus of the Tories and the return of the Patriots made the Young American element, with its “nervous activity and practical bent,” predominant in affairs, a circumstance which partly explains the rapidity of the community’s recovery from the effects of the war. Within three or, at the utmost, four years of the formal declaration of peace the city had completely regained its lost population.

The adoption of the Constitution put an end to the commercial strife between individual States which had been allowed to grow up under the old Articles of Confederation, and laid the foundation for that extraordinary material development of the United States which is one of the marvels of the present century. New York, being a seaboard town with superior inland water communication, became a chief beneficiary of the new nation’s expanding industrial activities.

New York became the seat of the Federal government on the inauguration of Washington in 1789. In that year, although the city was astir with the new life that had come to it after the war, the effects of the great fires of September 21, 1776, and August 3, 1778, were not yet effaced. The Lutheran Church, which had stood on the southern corner of Rector street and Broadway, was still a mass of ruins. Trinity Church and the Middle Dutch Church were in process of reconstruction. Of private houses, perhaps the majority were in the condition in which the fire had left them. But there was activity in house building, labor, rents and produce were high, and a feeling of buoyancy pervaded the community.

From the west side of Broadway to the west side of Greenwich street, on the North River shore, the ground was more or less closely covered with buildings from the Bowling Green to what is now Reade street. Beyond Reade street, there were only a few scattered houses. On the east side of the island the area of building improvement extended farther north, namely, to the south side of Bayard’s Lane, now Broome street. The south side of

this lane was built upon from Mulberry street, on the west, to the present Suffolk street, on the east; and a line drawn from the south-east corner of Broome and Suffolk streets to the northwest corner of Cherry and Pike streets would mark approximately the northeasterly limit of the city. North of the present line of Reade street no streets were laid out between the North River and Mulberry street, with the exception of Greenwich street and Broadway.

The city contained a population of 29,000. The number of houses in the city was 4,200. Among the buildings were many old Dutch houses, but the prevailing type of architecture was English. An advertisement of the Mutual Assurance Company of 1789 states that buildings were mostly of frame with brick fronts, although in 1761 the Legislature had enacted that none but brick houses should be erected south of the present Duane street after January 1, 1766. The time was afterward extended to January 1, 1774, but on the 2nd of May of that year nearly 3,000 citizens petitioned for the repeal of the act. The petition was not granted. On the other hand, it does not appear that the law was strictly enforced for many years. Streets were narrow and crooked. Water and Queen (Pearl), for example, were in some places too cramped to allow the construction of sidewalks. On the 21st of March, 1787, the Legislature had authorized the Common Council to lay out new streets and to improve those already existing, and in 1788 improvements were begun. The act provided that streets already laid out should not be made wider than four rods, nor narrower than two. The sidewalks were to be each one-fifth the width of the street, and were to be paved with brick or stone and curbed. The city possessed no system of sewerage, sewage being carried to the river at night in buckets by negro slaves. The city was supplied with water by public pumps. The best water came from the Tea Pump, which was fed from the Collect and stood in Chatham street, a little to the northeast of the end of Queen (Pearl) street.

Places of interest to the sightseer were not numerous. At the lower end of Broadway was the Bowling Green, which had been inclosed as a park in 1733. Fort George lay 150 feet below the Green. The northerly side of the fort contained no batteries, and the whole

structure was in a state of dilapidation and decay. On the easterly and southerly sides of the fort were large gardens. What had once been an earthwork, was known as the Battery, and extended from the south line of Battery place, along the water's edge, to Whitehall slip. The site of the fort and the Battery, being originally crown property, belonged to the State. In 1790 the site of the Battery, including a small part of the ground on which the fort stood, was granted to the city. In the same year the fort was razed to give place for a residence intended for the use of the President. Before the completion of the building the National Government removed to Philadelphia. After having been for some years occupied by the Governor the structure was converted into a custom-house. Below the fort grounds were two irregular blocks of houses, divided by Pearl street, and extending from Whitehall street, on the east, to the Battery, on the west. South of these two blocks were the Lower Barracks, a building 210 feet long by 25 feet deep, with an ell 70 feet long at its westerly end. The space of about 240 feet from the front of the barracks to the southerly extremity of the island was unoccupied except by the earthwork of the Battery and a small house on the west side of Whitehall street.

Broadway was paved from the Bowling Green to Vesey street, and contained several noteworthy buildings, including the Kennedy and McComb's mansions, the City Tavern (on the site of the present Boreel Building), Trinity Church and St. Paul's Chapel. The McComb mansion, on the west side of Broadway, was, in 1790, occupied by Washington at a rental of \$2,500 a year. Transfers of real estate on Broadway in 1789 were few. Among the deeds recorded in that year, was one conveying for £700 a lot on the northwest corner of Liberty street, 25x90, with a smaller lot in the rear; another lot, 35x90, in the same neighborhood was sold for £600. A plot on the west side of Broadway, some distance below Wall street, having a frontage of 105 feet and a depth of 270 feet to high water, running thence to low-water mark and thence 200 feet into the North River, was sold for £3,200. A Church Farm lot, 25x108.9, on the west side of Broadway, between Warren and Murray streets, brought £240, and £150 was paid for a lot 33x190 on the avenue, near the Collect.

On the easterly side of Broadway, the Park, inclosed by a wooden fence, extended from Vesey to Murray street. North of the Park, about on the northerly side of Murray street, stood the Bridewell, Almshouse and Jail, facing south. Between the jail and the almshouse a Chinese pagoda inclosed the gallows.

Broad street, in the year under review, had descended from its high estate as the seat of foreign commerce, and was occupied by small shops and dwellings. The principal business streets in the city were Queen street (the present Pearl, from Wall to Chatham), Great Dock street (Pearl from Broad to Wall), Water street and Hanover square.

The fashionable residence street of the city was Wall street, and the value of real estate in this favored locality may be judged by the sale, in 1789, of two lots, 57x106x57x135, on the south side of the street, near Pearl, for £1,800. Federal Hall, on the northeast corner of Wall and Nassau streets, was the finest building in the city, and, indeed, in the United States, fitting its character as the seat of the National Government. It was completed in 1789, being practically a new structure, although it contained most of the walls of an older structure, the City Hall, erected in 1700. On the removal of the Federal Government to Philadelphia, the premises reverted to their original use. On the completion, in 1812, of the present City Hall in City Hall Park, the structure on Wall street, including the grounds pertaining thereto—four lots—were sold at auction, and the building demolished.

The general stage office during part of the year 1789 was at Fraunces' Tavern, No. 49 Cortlandt street, whence stages left for Albany, Boston, and Philadelphia. The route to Albany was by the Bowery lane and Kingsbridge road to Kingsbridge and thence along the Hudson River. Stages left both ends of the route on Monday, Wednesday and Thursday, three days being required for the journey in summer and four or more in winter. A day's journey lasted from five o'clock in the morning until ten at night. The Boston stages left the city on Monday, Wednesday and Friday, by way of the Bowery and the Boston Post Road to Harlem, and reached Boston in about six days by traveling from three in the morning until

ten at night. In October, 1789, the Boston and Albany stage office was removed to Mr. Isaac Norton's, No. 160 Queen (Pearl) street. Stages for Philadelphia left Paulus Hook twice a day, except Saturday and Sunday, when but one stage ran. From Paulus Hook there were two routes to Philadelphia, one through Newark and the other through Woodbridge. The journey occupied about three days. One might also reach Philadelphia by taking the boat which left the Albany pier on Monday, Wednesday, Thursday, or Friday for South Amboy. From South Amboy stages set forth at three o'clock the next morning alternately to Bordentown and Burlington, whence boats sailed for Philadelphia. Boats for New Brunswick, N. J., left Coenties slip every Saturday morning. The New Haven boats left Burling slip, and stages for Jamaica, L. I., started from the ferryhouse at Brooklyn. There was also a stage from New York to Morristown by way of Paulus Hook. (Smith, N. Y. City in 1789, p. 101.)

Among the more important public improvements undertaken at the beginning of the nineteenth century was the filling in of the Collect, a body of water covering the area approximately bounded by the present Elm, Baxter, Pearl and White streets. On the western shore of this water the Dutch found a deposit of decomposed shells; hence the name Kalch, Callech, Colleck or Collect. By the English the water was popularly known as the Fresh Water Pond. The pond was surrounded by broad stretches of swampy ground, half land and half water, which extended across the island, excepting about 150 yards of salt meadow on the North River and about 300 yards of similar meadow on the East River. A sluggish stream along the line of the present Canal street furnished an outlet into the North River, while on the opposite side a similar stream, called Wreck Brook, communicated with the East River at the foot of the present Roosevelt street; so that, at exceptionably high tide, the waters of the two rivers mingled in the Collect. By 1733 the stagnant pond had become a menace to the public health. Consequently, in that year, it was granted to Captain Anthony Rutgers, who proposed to improve its sanitary condition by a system of sluicing and damming devised by himself. This system no doubt had some effect in carry-



1789.
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ing away the unhealthy stagnation. But with the multiplication of dwelling and other houses around the Collect the sense of danger to the public from its polluted waters increased, and in 1791 the city purchased Captain Rutgers's heirs' interest in it for £150. The filling in of the pond was apparently begun in 1803, when the dirt excavated on the site of the City Hall in City Hall Park was dumped into it. But it was not until 1808 that the work was undertaken in earnest. The city being then full of sailors and laborers thrown out of employment by the Embargo act, the city government, to relieve the distress among this element of the population, engaged a large force of men to obliterate the pond by leveling into it the surrounding hills. Two years later the improvement was completed.

The filling in of the Collect was by no means an isolated instance of municipal growth and enterprise during the opening decade of the century. Despite the ruinous effect on commerce of Jefferson's foreign policy, the city continued to expand. Old streets were improved. New streets were laid out, and large tracts of outlying lands were cut up into city lots. A large part of the Trinity Church Farm, for example, was thus improved, with the result that it was rapidly built upon. In 1808 alone Trinity Corporation ceded to the city land for the following new streets through its farm: Greenwich street, from Spring to the northern limit of the farm; Hudson street, from North Moore to Vestry; Washington street, from Christopher to the Hudson River; Varick street, from North Moore to Vestry; Beach street, from Hudson to the eastern limit of the farm; Laight street, from Hudson to its eastern boundary; Vestry street, from Greenwich to its eastern boundary; Desbrosses street, from Greenwich to the Hudson River; Le Roy street, from Hudson to the Hudson River and King, Charlton, Van Dam, Clarkson, Hamersley, Barrow and Morton streets, as far east and west as the church lands extended.

In the same year another important improvement was accomplished. The stream between the Collect and the North River was deepened and widened into a canal, which not only carried away the overflow from that part of the Collect not yet filled in, but which also drained the great swamps alongside the original stream, fitting them for use as building sites. The banks of the canal were planted with

shade-trees, and a road ran along either side of the canal. The width of the whole thoroughfare, which received the name of Canal street, was 100 feet. In the course of time, the canal was arched over with brick, and became a sewer.

But by far the most important public work undertaken at this period was the surveying and plotting of the whole of the present city, between Houston and 155th streets. Hitherto, the city had been allowed to grow at random along the lines of least topographical resistance. The region below the Collect, particularly east of Broadway, was a perfect maze of crooked streets. Above the Collect, the streets, though laid out on straight lines, were cut up into several independent groups, each at variance with the others. To prevent a similar confusion in the prospective street system of the northern part of the island, the Legislature, on April 3, 1807, appointed Gouverneur Morris, Simeon DeWitt, and John Rutherford Commissioners of Streets and Roads in the City of New York, with "exclusive power to lay out streets, roads, and public squares of such width, extent, and direction as to them shall seem most conducive to the public good, and to shut up streets not accepted by the Common Council within that part of said city of New York to the northward of a line commencing at the wharf of George Clinton on the Hudson River, thence running through Fitzroy road, Greenwich lane, and Art street to the Bowery road; thence down Bowery road to North street in its present direction to the East River." Four years were allowed the commissioners in which to draw up their plan. Promptly, in 1811, their report was made, and their maps filed, although the work of surveying the streets and locating them by means of "1,549 marble monumental stones and 98 iron bolts" was not completed until 1821.

With the exception of public parks, the City Plan established by the commissioners is substantially that which exists to-day between Houston and 155th streets. This entire region, which was of an extremely diversified character, has been reduced to a more or less uniform surface by the filling in of watercourses and leveling down of hills and ridges. A rectangular system of streets and avenues was adopted because of the "greater economy and convenience in build-

ing." The avenues were made 100 feet wide. Those that could be extended to the Village of Harlem were numbered west from First avenue, which ran from the west of Bellevue Hospital to the east of Harlem Church. Twelfth avenue ran from the "wharf at Manhattanville, along the shore of the Hudson River, in which it was lost." From First to Second avenue was a distance of 650 feet; from Second to Third, 610 feet; between Third and Sixth avenues the distance between each avenue was 920 feet; west of Sixth avenue, 800 feet.

Fifth avenue was called Manhattan avenue, or the Middle road. East of First avenue were four short avenues, called A, B, C and D, respectively. The cross streets were laid out up to 155th street, 1st street running from Avenue B to the Bowery, and 155th street from Bussing's Point to the Hudson River. The streets were 60 feet wide, except 14th, 23d, 34th, 42d, 57th, 72d, 79th, 86th, 96th, 106th, 116th, 125th, 135th, 145th and 155th, which were 100 feet wide. The commissioners supposing that the pressure of traffic would be across the island, from river to river, provided one-third more of latitudinal streets to the square mile than longitudinal. Experience has shown, however, that the pressure of traffic is on the streets running north and south. In the matter of public reservations, the commissioners set aside ground for a market, 3,000x800 feet, between 10th and 7th streets, First avenue and the East River; for a reservoir between 89th and 94th street, Fourth and Fifth avenues; for a parade, 1,350x1,000 yards, between 23d and 32d streets, Third and Seventh avenues; and four small parks or squares. The magnificent parade of the City Plan is represented by the present Madison square, while the market was never opened. To-day, when the city is obliterating costly improvements to provide sites for small parks, the commissioners' reasons for their niggardly policy in respect of "breathing spaces" make interesting reading. "It may be a matter of surprise," they say, "that so few vacant spaces have been left, and those so small, for the benefit of fresh air and consequent preservation of health. Certainly if the city of New York was destined to stand on the side of a small stream, such as the Seine or Thames, a great number of ample spaces might be needful. But those large arms of the

sea which embrace Manhattan Island render its situation, in regard to health and pleasure, as well as to convenience of commerce, peculiarly felicitous. When, therefore, from the same causes, the prices of land are so uncommonly great, it seems proper to admit the principles of economy to greater influence than might, under circumstances of a different kind, have consisted with the dictates of prudence and the sense of duty."

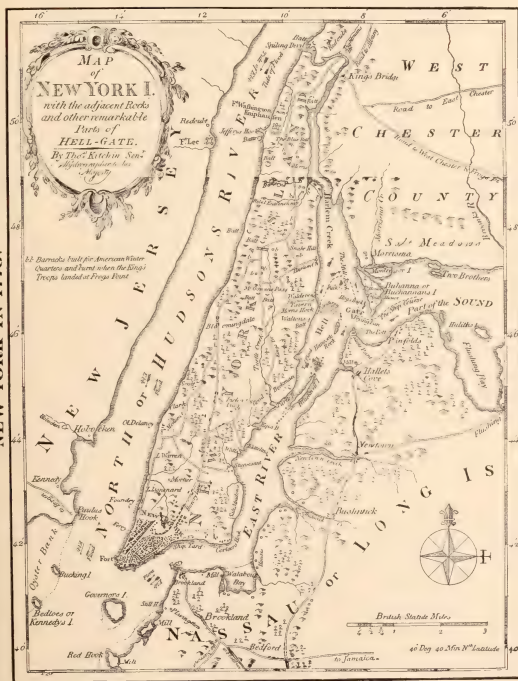
The City Plan of the Commission of 1807 is open to criticism in several respects. Its fundamental defect, however, is that, in order to give a low gradient to the streets, it provided for the filling in of primitive watercourses. The springs and streams of the island produced a volume of fresh water sufficient to supply the city until close upon the middle of the present century. Their filling in was ordered under the impression that, when obliterated from the surface, they would disappear from the soil. But many of the springs issued from the living rock, and continued to flow, with the result that they have permanently saturated the dirt thrown into them and the beds of the streams which they originally fed. The unsanitary condition of houses built upon such soil is obvious.

During the war of 1812, for two years, the commerce of New York was almost completely suspended. In 1814 the revenue of the United States government from the tariff was some \$4,400,000. In 1815, peace having been concluded, \$16,000,000 were collected at the port of New York alone, as manufactured goods which had accumulated abroad were poured into the country. These vast importations glutted the market, and many years were required to restore trade to a normal condition. But despite the war and subsequent vicissitudes of trade, by the year 1825 the population of the city had reached 166,000; its northern limit of building improvement was close to Greenwich Village, Greenwich Village itself was a populous suburban ward, and a considerable settlement was springing up west of the Bowery. It is also worthy of note that in the year 1825 gas was introduced in the city, pipes being laid in Broadway from Canal street to the Battery, by the New York Gas Light Company. Gas rapidly displaced oil lamps in the principal downtown streets, and in 1830 the Manhattan Gas Light Company was formed to supply the new illuminant in the upper part of the island.

The larger commercial life which New York entered upon after the second war with Great Britain was soon found to warrant the establishment of regular transatlantic lines of sailing vessels with fixed dates of departure. The famous Black Ball line of monthly—afterwards semi-monthly—packets to Liverpool was started in 1817. Two new monthly lines, the Red Star and the Swallow-Tail, were presently organized, with the result that communication was maintained between New York and Liverpool by a fleet of sixteen vessels, making weekly departures from each end of the route. Regular lines were also established to London, Havre, Greenock, and other European ports, while weekly lines plied between New York and Savannah, Charleston, Mobile, and New Orleans.

This excellent system of coastwise and transatlantic service was developed before the inland waterways tributary to New York had received any artificial improvement, and indicates the existence of perhaps as large a carrying trade as the city was then able to control by reason of natural advantages of geographical position. The time had, therefore, come when artificial exploitation of those advantages was inevitable. The project of a canal from the Hudson River to Lake Erie was brought before the Assembly by Joshua Forman in 1808, when an appropriation was granted for a preliminary survey. Two years later the movement received the powerful support of Senator, afterwards Governor, DeWitt Clinton, who thenceforward made the opening of the Erie Canal the chief concern of his political ambition. The war with England and the resulting disorder in the finances of the State caused a temporary abandonment of the project. But April 17, 1817, an act was passed providing funds for the construction of a canal 365 miles in length, with a surface width of 40 feet, a bottom width of 18 feet, and a water channel 4 feet in depth. Ground was broken July 4, at Rome, on the middle section, and the canal was formally opened October 26, 1825. The Erie Canal established the undisputed supremacy of New York City as a distributing agent for the commerce of the interior of the continent, so that when the construction of railways began their chief objective sea-board town was already determined by economic facts over which they had comparatively little control.

"NEW YORK IN 1778."



For the London Magazine 1778

*IV.—FROM THE OPENING OF THE ERIE CANAL TO
THE CLOSE OF THE CIVIL WAR.*

During the forty years from the opening of the Erie Canal to the close of the Civil War, New York City pushed her northern limit of building improvements from, say, Astor place to 42d street, and grew in population from 166,000 to 726,000. In other words, her progress was greater than it had been during the preceding two hundred years. This extraordinary achievement was the result, partly, of the opening of the Erie Canal, partly, of the general introduction of steamships, railways, and the telegraph.

The first successful steamboat, commercially as well as mechanically, was launched at New York in August, 1807. The "Clermont," constructed by Robert Fulton, ran as a regular packet between New York and Albany, making the round trip in seventy-two hours, while sailing vessels occupied from four to seven days each way. A second steamboat for service on the Hudson River was built in the following year, and a third in 1811. In 1812, two steam ferry-boats, also designed by Fulton, began to ply on the North River, others being presently constructed for the East River. The War of 1812 prevented these experiments from being followed up with vigor, and Fulton himself died in 1815. It was not until 1831 that a vessel, built at Quebec and named the "Royal William" steamed all the way across the Atlantic. But from this time on the development of the local coastwise and Atlantic steamship service was rapid, and in 1848 the famous Collins line of steamers was established between New York and Liverpool.

The experiments conducted in England with the steam locomotive—invented by George Stevenson in 1814—induced the New York Legislature, in 1825, to provide for the survey of a public railway through the southern tier of counties from the Hudson River to Lake Erie, which was to compensate those counties for the opening of the Erie Canal through the northern part of the State. The re-

port of the survey proved unfavorable, and the project was abandoned. Short local roads, however, were promptly constructed by private companies. The Mohawk and Hudson, chartered in 1826, was opened between Albany and Schenectady in 1831, being the first railway in the State. The Hudson River Railroad Company, chartered as early as 1846 to construct and operate a railway between New York and Albany, opened its line to East Albany in 1851. In this year, also, the first of the many trunk lines which serve as feeders to the commerce of New York reached the city. The New York and Erie Railroad Company was organized in 1832 to carry out the project, abandoned by the State, of building a railway through the lower tier of counties. With the assistance of liberal loans and grants from the Legislature, the line was completed nineteen years later from Dunkirk, on Lake Erie, to Piermont, on the Hudson River. New York, however, was the natural terminal of the road, and arrangements were promptly made to run its trains over the tracks of the Union, Ramapo and Paterson, and the Jersey City Railroads from Suffern to Jersey City. None of the other great trunk lines entering the city was originally projected as such, all having been formed by consolidation of connecting lines constructed under separate charters. Thus, the second trunk line to be established between New York and the West—the New York Central and Hudson River Railroad—was organized as recently as 1869 by the consolidation of the New York Central and the Hudson River Railroad Companies.

The experimental telegraph line, constructed by Morse, between Washington and Baltimore, with assistance from Congress, was opened in 1844, and two years later a line was completed from New York to Washington via Philadelphia.

The introduction of improved means of transportation and communication inaugurated a new era in the material development of the country, as a whole, and of New York City, in particular. Before the advent of the railway, population was confined to comparatively narrow strips of land on the seaboard and along the banks of navigable streams. Land transportation, being by means of oxen and horses, over indifferent roads, the margin of profitably tillable

soil was reached a short distance from the water's edge. The construction of railways opened the interior to cultivation, and started an immigration movement which in a few years covered the broad prairies of the Middle West with prosperous agricultural communities. From 1820 to 1829 immigration to the United States amounted only to 90,077 persons. Between 1830 and 1839 it rose to 343,517. From 1840 to 1849 it was 1,161,564, while between 1850 and 1859 Ireland alone sent 1,073,065 persons to the United States, and Germany 935,171. After 1847 emigration from the north of Europe received a fresh impetus from the potato famine of that year in Ireland, from the revolutionary movements on the Continent, which began in 1848, and from the discovery of gold in California, in the same year.

A larger proportion of immigrants, both absolutely and relatively to the population, settled in New York than in any other American city. At the same time, probably more than half of the native citizens of pre-Revolutionary ancestry drifted westward. The result was a complete change in the ethnic character of the population. By the outbreak of the Civil War the inhabitants of foreign stock far outnumbered the natives, who stood third in numerical order, the Irish being first and the Germans second. In politics, the presence of a growing body of naturalized citizens, who belonged mainly to the proletariat and the middle class, hastened the abolition of the few restrictions that remained on the full recognition of the democratic principle of equality. The mayoralty was made elective in 1834, whereupon the Democrat, Cornelius W. Lawrence, defeated his Whig rival for that office with the assistance of the Irish vote, and in 1842 all property qualification was removed in respect of city voters.

The growth of the city in extent and population encouraged the undertaking of important public and semi-public improvements. Stages for local transit were introduced in 1830, the first line running between the Bowling Green and Bleecker street. Two years later the New York and Harlem Railroad Company opened a horse railway—the first of its kind in the world—in Fourth avenue and the Bowery, between Prince and 14th streets. The tracks were flat iron

bars, spiked to timbers. The cars, designed by John Stephenson, resembled stage coaches, the driver sitting overhead, and moving the brake with his feet. Each car was divided into three compartments, with side doors, and was balanced on leather springs. The horse railway, however, as thus constructed, did not prove commercially successful, and the motive power was shortly changed to steam, whereupon the line was extended, first to Harlem (1837) later to Chatham Four Corners. The true era of horse railways did not begin until the Fifties. The Sixth avenue and Eighth avenue companies were chartered in 1851, and the Second avenue, the Third avenue, and the Ninth avenue companies in 1852, when the era may be said to have been fairly introduced.

The insufficiency and impurity of the city's water supply having begun to excite popular apprehension, owing to the frequent recurrence of epidemics and devastating fires, it was determined at the spring election of 1835 to secure a new supply by the construction of an aqueduct from the Croton River, forty miles away. Some months later the necessity of completing this undertaking without delay was emphasized by a terrible fire which broke out on the night of December 16. The fire raged nearly three days, destroying 693 houses and stores, with property valued at \$18,000,000, and covered an irregular triangular area of 13 acres, its course being along Wall street, the East River, and William street. Until the completion of the Croton Aqueduct, the water supply of the city was drawn from the island itself, the chief sources being the Tea-Water Pump, the town pumps, which could be found in nearly every block, the well of the Manhattan Company, and Knapp's Spring. The water from Knapp's Spring was carted about in the upper part of the city, and sold at a penny a gallon. The Manhattan Company, organized under the famous charter obtained by Burr, in 1799, which enabled it to conduct a banking business contrary to the intention of the Legislature, furnished the city's chief water supply for domestic use, pumping its waters from a well at Cross and Duane streets, into hollow logs distributed underground through the lower portions of the city. Water for use at fires was obtained from a well and reservoir at 13th street and the Bowery, through iron pipes connecting with hydrants at convenient street corners.

The project of securing a new supply from the Croton valley involved engineering problems of great difficulty. A storage lake had to be created by the construction of a dam across the river, and the aqueduct—an ellipse of stone, brick and cement, measuring $8\frac{1}{2}$ feet perpendicularly by $7\frac{1}{2}$ feet horizontally—had to be carried over the valley of Sing Sing and across the Harlem River. But by the summer of 1842 the work was completed, with the exception of the aqueduct bridge across the Harlem. At this point resort was had to a temporary system of inverted siphons, or iron pipes, which made the new supply immediately available. On June 27 the water was admitted into the receiving reservoir at Yorkville, and on July 4 it was introduced into the distributing reservoir at Fifth avenue and 42d street.

Previous to the opening of Central Park, the city's breathing places were confined to a few small squares, mostly damp and unwholesome reservations on the site of old water courses. The propriety of providing a park, in the proper sense of the term, was first officially suggested by Mayor Ambrose C. Kingsland in a message to the Common Council of April 5, 1851. Action was promptly taken on the suggestion, and, under authority received from the Legislature, \$5,028,844 was appropriated for the acquisition of the land bounded by Fifth and Eighth avenues, 59th and 106th streets, possession being obtained in 1856. The following graphic description of the site is given by Gen. Egbert L. Viele, the topographical engineer of Central Park, in the "Memorial History of New York." "It was for the most part a succession of stone quarries, interspersed with pestiferous swamps. The entire ground was the refuge of about five thousand squatters, dwelling in rude huts of their own construction, and living off the refuse of the city, which they daily conveyed in small carts, chiefly drawn by dogs, from the lower part of the city, through Fifth avenue (then a dirt road, running over hills and hollows). This refuse they divided among themselves and a hundred thousand domestic animals and fowls, reserving the bones for the bone-boiling establishments situated within the area. Horses, cows, swine, goats, cats, geese, and chickens swarmed everywhere, destroying what little verdure they found. Even the roots in the ground

were exterminated until the rocks were laid bare, giving an air of utter desolation to the scene, made more repulsive from the odors of the decaying organic matter which accumulated in the beds of the old water courses that ramified the surface in all directions, broadening out into reeking swamps wherever their channels were intercepted." The work of improving the site was begun in 1857, and in the following year a portion of the park was opened to the public.

In 1859 the northern boundary of the park was extended from 106th to 110th street. The land contained in the second tract was practically the same in character as that of the first. Some idea of the effect which the opening of the park had on surrounding real estate may, therefore, be obtained by comparing the prices paid for the two sections. The first cost about \$7,800 an acre, while the second tract cost \$20,000 an acre. Within five years the taxable value of the three wards bounding the park rose from \$26,429.565 to \$47,107,393, and in ten years it was \$80,070,415.

From the opening of the Erie Canal to the outbreak of the Civil War, despite financial crises (1837, 1857) visitations of the Asiatic cholera (1832) and the yellow fever (1853), disastrous fires (1835, 1845), and formidable riots (1834, 1835, 1837, 1849), New York enjoyed a period of unexampled prosperity and growth. But with the commencement of hostilities building improvements practically ceased. Of high-class dwellings, which had been increasing at the rate of 500 to 800 a year, not one-tenth as many was constructed as in the corresponding period immediately preceding, owing to the abnormal rise in the price of labor, caused by the exodus of the laboring class to the seat of war and the derangement of the currency. Population actually fell off 96,482, and the demand for vacant lots practically ceased.



1840.
BROADWAY, EAST SIDE, BETWEEN GRAND AND HOWARD STREETS.

*V.—FROM THE CLOSE OF THE CIVIL WAR TO
CONSOLIDATION.*

At the close of the Civil War the city's northern limit of building improvements was in the neighborhood of 42d street. Beyond that, streets were for the most part ungraded and unpaved. In this dreary region of rocky eminences and marshy depressions, stray houses interspersed among a legion of squatters' shanties, straggled, particularly on the East Side, as far north as 86th street. Below 86th street the city contained, in 1865, 25,261 vacant lots. It was a city with a low sky-line. Square miles of territory were covered with houses of three and four stories. The Astor House and the Fifth Avenue Hotel were considered gigantic structures, and mercantile buildings were rarely over five stories in height.

The introduction of steamships, railways, the telegraph, and the horse-car, during the preceding period, was producing a revolutionary effect on the commercial and industrial life of the community, an effect which was presently heightened by the submarine cable, permanently opened in 1866, and the telephone, established in 1879. But no corresponding revolution had been effected in the productive power of real estate, and the price of land, as compared with the present day, was low. The earning capacity of real estate to-day is determined largely by the passenger elevator, rapid transit, and steel construction, and none of these agents existed as potent factors in 1865. The first apartment house, properly so-called, with its large tenantry and corresponding income, dates from 1869, and it was not until the evolution of a successful type of elevator, some years later, that mercantile buildings of more than five, or, at the utmost, six stories became economically practicable. Nothing more forcibly illustrates the revolution which has been effected in land values since 1865 than the circumstance that, over square miles of the city's territory, the major part of the buildings of that day have been replaced by loftier structures. In fact, comparatively

little of the city, as it then was, remains, except in the form of obsolete survival.*

New York in 1865.

The extraordinary physical change which New York has undergone in consequence of improvements in the builders' trade and transportation facilities makes it desirable to take a closer survey of the lower part of the island as it appeared at the opening of the period under review. The Battery sea-wall, extending from the foot of West street and Battery place to Whitehall street, was not yet completed. On the other hand, the mansions of the wealthy Knickerbocker families which, before the war, made their homes in the vicinity of Bowling Green and Battery Park were for the most part converted to mercantile uses.

Few people descending from the elevated railway at the Battery to-day will recognize that historic place in Felix Oldboy's description, published some ten years ago. "Sitting here," says that delightfully reminiscent gentleman, "with every little wave of the harbor dancing in the sunlight just as it did forty years ago, when I played under the elms, with no signs warning one to keep off the grass, I recall the Battery as I first knew it. The park was not then one-half its present size. There was no sea-wall. The tide rippled unchecked among the sands that made the beach. The walks were

*This radical change in land values has rendered a study of the prices which obtained prior to the close of the Civil War of academic rather than practical interest. In the preceding chapters, therefore, statistics relating to prices have not been introduced, except incidentally, and by way of illustration. To be properly treated, the subject of the progressive movement of land values before the period which we take up in the present chapter would require an enormous amount of research among public records practically inaccessible in the absence of an adequate system of indexing. It is not until we reach the files of the "Record and Guide," in 1868, that statistical information becomes available in convenient form. As we go back in time an additional difficulty is encountered in the fluctuations of the purchasing power of the monetary metals. However, the movement of land values is only a lesser part of the history of real estate. The principal part is the progress and character of improvements. The account contained in the foregoing chapters has been based on standard historical works, special acknowledgement being due to the "Memorial History of the City of New York," edited by James Grant Wilson; Janvier's "In Old New York," and Smith's "New York City in 1789." Use has also been made of less accessible authorities, as Valentine's "Manuals," "History of the City of New York," and "Ferry Leases and Railroad Grants," Post's "Old Streets of New York," and old directories and guide books. For the period beginning with the close of the Civil War reliance is had almost exclusively on the files of the "Record and Guide."

unkempt, and the benches were only rough wooden affairs. But the breeze, the fresh sea air, the whispering leaves, the orioles and bluebirds, and the shade were there, and to the boys of the period its attractions were Elysian. Castle Garden, then a frowning fortress still thought capable of service, was reached by a wooden bridge, and the salt water lapped its foundations on all sides."

This description recalls the fact that most of the land included in the Battery park, which now comprises twenty-one acres, has been reclaimed from the sea, chiefly since the war. According to a report of Governor Dongan, dated in 1687, "the ground that the Fort stands upon and that belongs to it contains in quantity about two acres or thereabouts." At that time the high-water mark extended in a slightly westward curve from the foot of the present Greenwich street to the present Whitehall and Water streets. All the land beyond this line has been obtained by filling in over the rocks that lined the primitive shore.

Castle Garden, originally known as Castle Clinton, was built by the Federal Government in 1807, its site being then 300 yards from the main land. In 1822, on the removal of the Federal military headquarters to Governor's Island, the structure was ceded to the city, which, two years later, leased it to private individuals as a theatre and place of amusement. It was here that the populace gathered to do honor to Lafayette, in 1824, and to Jenny Lind, in 1850. Together with the Bowery Theatre, this historic building is the only remaining landmark of the drama of the first half of the century. In 1855 Castle Garden was turned over to the State for use as an emigrant station, and as such it was known in 1865 to millions at home and abroad who had never heard of its other phases of existence. When the Federal Government assumed charge of the reception of immigrants in 1890, the building came again into the possession of the city, by which it has been started on a new career as an Aquarium.

Broadway in 1865 was hardly less impassable than to-day, owing to the cumbersome omnibuses which ran to and from the ferries and formed part of the city's main transit system. According to a guide book copyrighted in 1867, the routes followed by the several

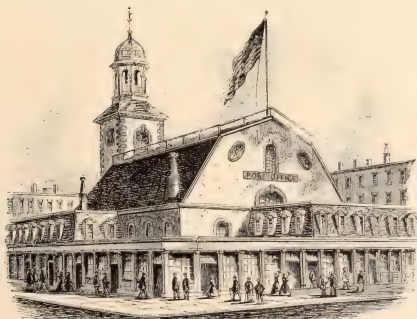
omnibus lines were as follows: From South Ferry, through Broadway, to 42d street; from South Ferry, through Broadway and Fourth avenue, to 32d street; from South Ferry, through Broadway, 8th street, Avenue A, 10th street and Avenue D, to 10th street Ferry; from South Ferry, through Broadway, West 23d street, Ninth avenue, and 30th street, to Hudson River Railroad Station; from Wall Street Ferry, through Broadway, 23d street, Madison avenue and



Stock Exchange, Broad street front, 1868. Since Remodeled.

40th street, to Reservoir square; from Fulton Ferry, through Broadway, 11th street, University place, 13th street, and Fifth avenue, to 42d street; from Cortlandt Street Ferry, through Broadway, Bleecker street, and 2d and East Houston streets, to Houston Street Ferry. The street-car lines, running north and south, were the 2d, 3d, 4th, 6th, 7th, 8th, 9th and 10th avenue, the East Side, and the Bleecker street and Fulton Ferry systems, including the Yellow Line, besides which there were half a dozen crosstown routes. No street-car line had in 1865 invaded Broadway.

In Broadway, between the Bowling Green and Wall street, were the offices of importers of merchandise other than dry goods, shipping agents, transportation companies, financial institutions, and lawyers, the buildings being mostly five-story structures without distinctive claims to architecture. In Beaver street, grouped around the old Produce Exchange Building (the new building was begun in 1881 and completed in 1884) were the flour, grain and provision trades. The foreign fruit and wine trade was in lower Broad street.



POST-OFFICE BUILDING.

Old Post-Office Building, Nassau Street, Between Cedar and Liberty
Site of present Mutual Life Building.

The Stock Exchange moved into its present quarters in Broad street, between Exchange place and Wall street, in 1865, and this point, then as now, was the centre of the office building district, in which stock brokers, lawyers, and the larger financial institutions were located.

In Nassau street, between Liberty and Cedar, was the Post Office, quartered in the old Middle Dutch Church building, into which it moved some years before from a hired basement in Wall street. The Dutch society purchased the site in 1728 for £575; in 1861 the site, including the building, was sold to the United States Government for \$200,000.

Off City Hall Park, toward the East River, was the district of the

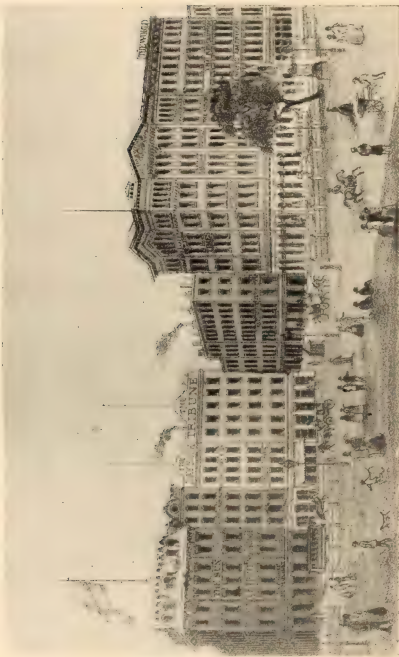
West Indian, South American and Chinese import trades in tobaccos, coffees, teas, sugars, syrups, liquors, dye-woods, and raw hides; farther to the eastward, between William street and the East River were concentrated, in their respective localities, the drug trade, the paint, oil and color trade, the school-book publishing trade, the iron, tin-plate, stove and hollow-ware trade, ship-chandlery, the cotton and wool commission trades, the lead-pipe and plumbing trades, and the leather trade. The chief attraction in the lower end of the city, however, was Trinity Church in Broadway at the head of Wall street—the third of the line on the present site. The first, a wooden edifice, built in 1697, was destroyed in the great fire of 1776. The second was built in 1788, and the present edifice, from plans by Richard M. Upjohn, was finished in 1846.

On the corner of Broadway and Maiden lane was the Howard House, one of the city's famous hostelrys. Nearby, in Maiden lane, was the principal seat of the jewelry trade. Barnum's Museum, at Broadway and Ann street, was burned in July, 1865, and the site was presently occupied by the five-story Herald Building, which in turn has given way to the St. Paul Building, of twenty-six stories. St. Paul's Chapel, between Broadway, Church, Vesey and Fulton streets, was the oldest church edifice in the city, having been completed in 1766. The comparative unimportance of Broadway as a thoroughfare at the time when St. Paul's was built, is apparent from the circumstance that the chapel fronts towards the North River.

Printing House square in 1865 was quite as famous as to-day, though not so imposing architecturally. The "World," the youngest paper among the great dailies, occupied rented quarters on the corner of Beekman street. It was housed in a small building belonging to Orlando B. Potter, one of the most extensive owners of New York business property. Next door to it was the old five-story Times Building; a fire-proof structure, with massive walls of brick faced with Nova Scotia stone on its three front elevations, on Park row, Spruce and Nassau streets. This was the most imposing and in all respects the best equipped newspaper building in the city. Diagonally across the corner from the Times Building was the sanctum

of the Great Abolitionist, Horace Greeley. The Tribune Building was a low, old-fashioned structure, as were also the other buildings on this side of the square. On the opposite corner of Nassau street stood the American Tract Society's Building, a five-story red brick structure. The building occupied by the "Sun" was by long odds the best looking on that side of the square. It was the original Tammany Hall, and was called "lofty and imposing" at the time when it was built. On the next corner was the famous old Earle's Hotel, renowned among newspaper men; but it had seen its best days. The Staats Zeitung Building, on Tryon row, was not yet in existence. On Franklin square, Printing House square's modest rival at the intersection of Pearl, Frankfort and Cherry streets, were located Harper's great five-story publishing house and some smaller establishments.

When the century was still young Cherry, Monroe, Madison and Henry streets, and the cross streets, Pike, Jefferson, Rutgers, Clinton, Montgomery, Gouverneur, Scammel and Jackson, constituted the most fashionable residence section. In Catharine street were then the largest dry-goods and millinery stores in town and naturally it was the centre of the fashionable shopping trade. Lord & Taylor had their original establishment in this street. Beyond Grand street, along the East River, was the ship-yard district, while between East Broadway and Houston street, clear over to Chatham street and the Bowery, stretched the dwelling district of the ship-yard operatives and other mechanical trades. All this had changed by the year 1865. Although some of the old families still clung to their former homesteads, the fashionable centre had shifted long before the war to Stuyvesant square and Second avenue, then to Washington square and lower Fifth avenue, and in 1865 it was changing to the vicinity of Fifth avenue, about 42d street. The entire section east of Chatham street, the Bowery, and Third avenue, except the immediate vicinities of Tompkins and Stuyvesant Parks, was rapidly filling up with foreigners, the native American citizenship of the provident common class having sought refuge in the western side of the city, particularly in the districts comprising the old villages of Greenwich (between Canal and 14th street, west of



Printing House Square in 1848.

Broadway to Houston, and west of Sixth avenue, above Houston) and Chelsea (between 14th and 34th streets west of Seventh avenue).

The County Court House, at the north end of City Hall Park, facing Chambers street, was in process of construction, having been begun in 1861. A. T. Stewart's five-story, white marble, wholesale dry-goods establishment, on the corner of Broadway and Chambers street, marked the beginning of the wholesale dry-goods district, which extended to Canal street along both sides of Broadway, and in the side streets as far west as West Broadway. There were still many private residences left in Church and Lispenard streets, but they were fast disappearing before the onward march of trade. The New York Life Insurance Company had not yet purchased the block front between Leonard street and Catherine lane, for the purpose of erecting the office building recently displaced. When this and the Park Bank and Equitable Life buildings were completed Broadway could boast the three most imposing and artistic office buildings in the country. West of Broadway, in the lower part of the city, was the machinery district; Barclay, Robinson, Murray and Warren streets contained the china, crockery, and glassware trade; and Warren and Chambers streets the saddlery and hardware trades. The stationery and blank-book trade was more scattered; so also the trade in boots and shoes, clothing, straw goods, rubber goods and notions. West of College place and West Broadway, the wholesale grocery, wooden and willow-ware, window glass, wholesale confectionery and provision trades had their habitations. St. John's Park was not yet obliterated to furnish a site for the Hudson River Railroad Company's freight station.

On the west side of Broadway, between Reade and Duane streets, was the New York Hospital. The Bloomingdale Insane Asylum, a branch of this hospital, was located on the Morningside plateau. The larger retail stores were located on Broadway, between Canal street and Astor place, but Stewart had already covered part of the block between Broadway and Fourth avenue, 9th and 10th streets, with his giant five-story iron front "dry-goods palace." The Fifth Avenue Hotel, in Fifth avenue, between 23d and 24th streets, was the first elevator building in the city. It was

opened in 1859, and was six stories high, the elevator being constructed on the principle of a revolving nut or screw. Twenty-third street was still pre-eminently a residence street.

Factors and Periods of Development.

As already indicated, the local factors of first importance in the development of real estate during the period under consideration have been: 1. The extension and improvement of rapid transit facilities, chiefly through the construction of elevated railways. 2. The adoption or evolution of new types of buildings, and improvements in building methods, such as the introduction of the apartment house, the development of the passenger elevator, and the adoption of the method of skeleton construction; in a word, all agents whatsoever which, working through the builder's craft, have increased the accommodation obtainable from a given superficial area. 3. Public improvements.

By the year 1868 these three factors were all present in a more or less modified form, and were affecting land values by reason of the expectations created by their prospective development. The rapid transit problem, much as we know it to-day, was receiving attention. The city, it was felt, had outgrown its existing limits. It was clearly seen that speedier transportation was a pre-requisite to further expansion. The Arcade Railroad, the New York Central Underground Railroad, the Through-the-block plan, the Swan three-tier road, the Gilbert Elevated Railway, the Beach Pneumatic Transit road, these and other schemes were being advanced as solutions of the problem. The era of large office buildings had opened—not, of course, with structures in the style of recent skyscrapers, but of the first forerunners of these; edifices such as the New York Life Insurance Company's Building, on the corner of Broadway and Leonard street, the Park Bank Building and others of similar class. A. T. Stewart, to whose vigorous enterprise New York owes its first mammoth store, had already erected the big emporiums on Broadway, at Chambers and at 10th street. On the 7th of March, 1868, the Central Park Commissioners filed

their maps of the lines and grades of the street system of the West Side. Morningside Park and the Riverside improvements were drawn plainly enough on the popular map of the city, though they were not added to the departmental maps until a few years later. The annexation of the district north of the Harlem was being talked of. The Brooklyn Bridge was under discussion, though the bill creating the legal foundations of the structure was not enacted for some years. Plans were preparing for the Post Office at City Hall Park. The press was demanding a radical improvement of the dock system. Several fire-proof buildings had already been erected, and the necessity of adopting this kind of construction in the larger edifices was receiving recognition. The idea of the apartment house was fermenting in many minds. The passenger elevator had not, indeed, yet received its final development, and the skeleton system of construction was lacking. Nevertheless, both these improvements lay potentially in the new demand for higher and fire-proof buildings.

In the following pages our concern is with the foregoing local, as apart from the general, conditions that have affected real estate. However, it is necessary to remember that the opening of the Far West and the multiplication of railways have in an extraordinary degree stimulated the commercial and industrial activities of the city since the war. During that great struggle one million and a half of men were withdrawn from productive occupations to serve as soldiers in the Union and Confederate armies. Their place as producers was supplied partly by immigration from Europe, but chiefly by the invention of labor-saving machinery. So great were the profits of agriculture and so limited the supply of labor that fortunes were to be made by the invention of improved agricultural implements, with the result that the mechanical genius of the people was stimulated to the utmost. It is estimated that the improved agricultural machinery of to-day enables one man to do the work that was performed by twenty at the beginning of the sixties, and the same holds true of other industries. At the close of the war the productive forces of the country had adjusted themselves to the abnormal economic distribution of the population. When

the armies were disbanded the Union and Confederate veterans found their civil occupations for the most part gone. But in 1869 the heart of the continent was pierced by the Union Pacific Railroad, and in a few years a network of railways covered the entire West. The surplus population of the East streamed into the new country, followed by bands of immigrants from abroad. A remunerative field of labor was open to all who would enter. The Government supplied land at a nominal charge. Western competition drove the Eastern wheat-grower from his high-priced land to the factory, while the West furnished, by way of compensation, an enormously increased market for the manufacturers of the East.

The material progress of the United States between the censuses of 1870 and 1890 is one of the marvels of history. In the former year about one-third of the national domain was unsettled. The Western frontier ran irregularly parallel with the Mississippi River, but nearer to that stream than the Rocky Mountains. Excepting certain sections on the Pacific slope and in Utah, Colorado and New Mexico, the Great West was virgin wilderness. Twenty years later it was a smiling agricultural region covered with thrifty homesteads and prosperous cities. The population of the United States had increased sixty-two per cent., while the taxable wealth of the nation had leaped from \$30,068,000,000 to \$65,037,000,000, an advance of 116 per cent. The railway mileage of the country had been increased 200 per cent. and half a dozen new States had been created.

Without attempting to analyze the influence which each local and general factor has exerted, it may be premised that their total effect has been to divide the history of real estate since 1868 into three well-defined periods: 1. The speculative period, from 1868 to 1873. 2. The period of stagnation, from 1874 to 1879. 3. The period of development, particularly in building improvements, from 1879 to the present day.



View in 1848 from School House in Forty-second street, between 2d and 3d Avenues, looking North.

The Speculative Period.

The year 1868 was the first year of the greatest speculative craze that has so far affected New York real estate. Traced to its primary source, it was no doubt largely one of the consequences of the inflation that followed the close of the war, but confining our attention to local causes it was the direct outcome of large anticipations, born of great contemplated improvements in rapid transit, and vast promised public works.

As a strict matter of fact, private enterprise was not actually making great additions to the rapid transit accommodations of the city in 1868, though the street railroad lines were rapidly invading the great avenues, nor were the municipal authorities actively engaged in pushing many important improvements, but it was settled in everybody's mind that the city was on the eve of witnessing the commencement of important undertakings from both sources. The element of speculation is one of the most active forces in promoting real estate operations. It was, therefore, only necessary for events to be shaping themselves for new developments with some measure of certainty in order to stimulate the real estate market. In 1868 a new rapid transit system seemed to be assured. The problem apparently had been narrowed to a choice between plans. No good reason existed for doubting that before long Harlem on both sides of the island would be as near to the City Hall as 42d street was by means of horse cars and omnibuses. The demand for great city improvements also was at that moment particularly insistent. The West Side Association was vigorously demanding the attention of the authorities to the reclamation for building purposes of the province whose destiny it was watching over. Already, on April 13, 1866, the first act of legislation had been passed for improvement of the West Side. Riverside Drive, Morningside Park, the Grand Boulevard, the widening of Broadway north of 17th street, the Eastern Boulevard, the opening of Madison avenue, were all either in contemplation in 1868 or in actual progress toward completion. We must add to the foregoing the circumstance that the war was over, the nation was bending

its energies again to industrial pursuits. Perhaps as early as 1867 the real estate market felt the beginnings of the coming activity, but it was in 1868 that the boom indubitably manifested itself, and a year later it was at its height. In June, 1869, it subsided somewhat; there was a decided lull in 1870, but in the spring of 1871 a fresh start was made, which carried the movement along until the fall of 1873.

The peculiarity of this great speculative craze was that it was almost entirely restricted to dealing in lots—vacant property—lying east and west and north of Central Park. On the West Side in 1868 there were not more than half a dozen modern houses. Standing at the southwest corner of the park, stretching away to the northwest over the territory which is to-day the great residential section of the well-to-do, there was nothing to be seen but a wilderness of rocks dotted with dilapidated shanties. The region was almost as wild as at the time when Washington rallied his forces on the Heights to the north. It was traversed by country-fied roads; indeed it was country. Here and there were a few rural houses and wayside inns, and at Carmansville the pedestrian might rest himself in a slumbrous little village which betrayed no tokens of the revolution at hand. On the East Side there was somewhat more for the visitor to see. Here again we run across the influence of rapid transit. As early as the fall of 1858, ten years before, the Second avenue cars were running to 122d street. The Harlem Railroad extended to Harlem. With the inconvenience of two changes the traveler—it was travel in those days—could penetrate by the Third avenue line as far north as 86th street. And the cars brought with them population. Residences and stores sprang up along their routes, and although in 1868 the East Side still wore a suburban aspect, Third avenue was almost continuously built up as far north as 86th street, and Second avenue was well lined with buildings. Of course at Yorkville and Harlem there were older settlements upon which the longitudinal growth of the city was encroaching.

The growth of New York beyond the limits of the Colonial city has been strictly controlled by the nature of the rapid transit fa-

cilities. The extent of the one has ever marked the boundary of the other. First of all there was the stage coach era, when after a loose manner the villages of Greenwich and Chelsea were united. Then came the omnibus era, when the Wholesale District was confined below Chambers street and the retail stores lined Broadway as far north as Canal street, and the upper part of the residential city stretched to 14th street and beyond. The 'bus, however, failed to extend the town very much further than 23d street. The horse-car era followed, beginning in 1852, and the northernmost limit of the city was pushed upward from 23d street to, as the furthestmost point, 59th street. Beyond that street it rendered only a suburban service, but it was a service which, as we have seen, did a great deal to develop the East Side. On the West Side, in 1858, the Sixth avenue cars ran to 59th street and the Eighth avenue cars to 60th street, but the progress of extension to the north was much slower on that side of the city than on the other. The horse-car, however, was the first factor that greatly contributed to enhance the value of real estate in the region north of 59th street and in the district immediately south of that street.

We start then with the extension of the horse-car lines north of 59th street and the movement of population that accompanied them into the upper section of the city. Following, and in great measure due to these advances, came the cry for extensive public improvements and the demand for speedy rapid transit lines to the Harlem. In 1868 both of these were apparently on the point of being secured. Under these circumstances it was not surprising that the speculative spirit of the community pictured the great unoccupied waste of land east and west and north of Central Park as converted within a few years into the finest residential part of the

In 1858 lots on 5th avenue, at 125th street, were worth \$1,000; at 124th street, \$800. On 120th, 119th, 118th and 117th streets, east of 5th avenue, street lots were worth, perhaps, \$600, and corner lots \$850. At 116th street, Bleecker & Sons sold a corner lot at \$1,500, and inside avenue lots at \$1,200. Street lots adjacent brought about \$800. Between 110th and 115th streets, avenue corners were sold for \$1,400 to \$1,600; inside lots, \$1,025 to \$1,115. Street lots could be purchased for from \$385 to \$325. This standard of prices ruled, but increasing with every block southward to 59th street, around which point avenue lots were worth \$5,000 to \$7,000. West Side property at this period received little attention, and there was scarcely any market for real estate as there was on the East Side.

city. It was hard to believe that any one could go astray purchasing real estate, and as early as the close of 1867 the multitude commenced buying lots. Purchasers scarcely took any thought of prices and many never saw the lots to which they took title. Nothing at all approaching to business judgment controlled the market. No one had any real idea of value. Property changed hands quickly and many of these turn-overs, both on the East and West Sides, resulted in such dazzling profits that it is little wonder that the rational business instincts of the community were confounded. In January, 1869, Sacchi & Burling purchased from C. G. Havens the block between 70th and 71st streets, Eighth and Ninth avenues, for \$400,000. In the middle of February they resold the same property for \$505,000. On the other side of the city a plot of lots on 84th street, between Madison and Fifth avenues, was sold four times in sixty days, the first time at \$40,000 and the last time at \$55,000. It was in that year that the first portion of the Dyckman property on the upper West Side, in the neighborhood of 200th street, was offered at auction—the first great sale of city property and the forerunner of the breaking up of the big estates, many of which dated from Colonial times. It would be impossible to calculate the amount of realty sold during even the first stages of the boom. It was estimated that in the month of April, 1868, \$6,000,000 worth of property was sold under the hammer, but not all of this was up-town real estate, nor even New York City real estate. E. H. Ludlow & Co., it was reported, sold between the first of January and the last of June \$2,525,125 worth of property; Muller, Wilkins & Co., \$7,212,000, and Homer Morgan (all at private sale) \$7,000,000 worth. A factor that contributed greatly to the activity at this period was the revival of the contract system, which had played an important part in the real estate boom in the fifties, and which received a fatal blow in 1860, when property decreased so suddenly in value at the commencement of the war. By the operation of this system large tracts of land were secured, usually on ninety days' contract, by depositing 5 per cent. of the purchase money. The land thus obtained was mapped out and sold under hammer at the salesroom. Every artifice of the speculator, indeed,

we may say of the gambler, was employed. The Exchange rooms, at No. 111 Broadway, were constantly thronged. The mock auction business flourished, and it is estimated that perhaps as much as two-thirds of the sales reported were bogus.

It deserves to be noted that this increase in real estate values was not confined to New York, but was very marked in San Francisco, Chicago, Boston, and elsewhere in 1868. As events have turned out, much of the property bought then no doubt would have yielded substantial, and in some cases magnificent profits, had the purchasers been able to hold on, pay taxes and weather the inevitable occurrence of hard times. The boom of 1868 and the following years, however, was not an investors' movement. It was purely speculative, and even those investors who did participate in it were not consciously laying out their money for profits to be secured fifteen or twenty years later. All that was necessary to prick the boom was the arrival of some circumstance that would occasion a vigorous scrutiny of the movement. This did not come until 1873, when the panic, which upset so many solid calculations in the mercantile world, effaced the very notation of the golden arithmetic upon which these real estate operations were based. Between 1868 and 1873 it is safe to estimate that the value of vacant

In the up-town section the following prices were obtained in 1869: 70th street, west of 8th avenue, about \$8,000 per lot; 73d street, west of 2d avenue, \$2,000; 81st street, west of 11th avenue, \$4,000; 88th street, east of 9th avenue, \$4,000; 100th street, west of 2d avenue, \$4,000; 100th street, west of 9th avenue, \$3,000; 116th street, west of 2d avenue, \$2,600; 125th street, west of 4th avenue, \$4,500; 134th street, east of 5th avenue, \$2,500; on 5th avenue, east side, north of 62d street, two lots sold for \$50,000; 5th avenue, southeast corner of 67th street, six lots, for \$120,000; 5th avenue, northeast corner of 110th street, two lots, for \$20,000; 8th avenue, west side, 27.2 north of 82d street, two lots, \$20,000; 9th avenue, northeast corner 70th street, two lots, \$14,900; 9th avenue, southeast corner 71st street, two lots, \$15,000; 9th avenue, northwest corner 98th street, two lots, \$7,200; 9th avenue, northeast corner 123d street, four lots, \$11,400; 10th avenue, northeast corner 83d street, two lots, \$5,750; 10th avenue, northeast corner 93th street, one lot, \$7,000; 10th avenue, northeast corner 118th street, eight lots, \$22,000; 10th avenue, northeast corner 145th street, nine lots, \$25,000; 11th avenue, west side, 25.5 south 69th street, two lots, \$6,050; 11th avenue, southeast corner 145th street, seven lots, \$34,000.

In 1870 the subjoined representative sales were made: Boulevard, west side, 25.8 south 72d street, one lot, \$11,500; Boulevard, west side, between 140th and 141st streets, ten lots, \$70,000; Boulevard, southeast corner 141st street, two lots, \$5,300; Boulevard, northeast corner 147th street, five lots, \$19,000; 60th street, north side, 40 east of 4th avenue, eight lots, \$95,200; 85th street, north side, 173 east of Avenue A, four lots, \$6,500; 85th street, north side, 100 east 9th avenue, six lots, \$30,000; 86th street, north side,

property north of 59th street seemingly increased fully 200 per cent., and in many cases 300 or 400 per cent.

The speculation which raged north of 59th street was not by any means so intense south of that thoroughfare, although there was a brisk demand for property in the immediate neighborhood of 59th street. In the lower sections of the city, activity manifested itself chiefly in the shape of building operations and in the transformation of the older residential sections to the purposes of trade. Indeed, in 1868 an important up-town movement was well under way. The retail business was in progress of transference from a centre which may be placed, approximately, considerably south of 14th street to a centre near to 23d street. The movement was similar to the shifting which we are witnessing to-day to 42d street. As to the choice residential region of the city, it had already, some years before, commenced to move up-town into the streets between the 30th and 50th parallels. Fourteenth street was still a street of private boarding houses and Union and Madison squares were occupied chiefly by dwellings. Invasion by the storekeeper, however, had already produced marked effects upon the character of this district. A. T. Stewart, as we have seen, was in 1868 just completing his mammoth store at Broadway and 10th street. The old Peter Loril-

325 west of 3d avenue, one lot, \$9,000; 111th street, south side, 80 west of 4th avenue, two lots, \$3,100; 115th street, south side, 270 west of 3d avenue, five lots, \$14,000; 118th street, south side, 285 west 5th avenue, six lots, \$15,000; 125th street, north side, 260 east of 3d avenue, two lots, \$7,000; 127th street, north side, 250 east of 7th avenue, two lots, \$6,000; 135th street, south side, 185 west 5th avenue, two lots, \$6,400; 140th street, north side, 250 east 11th avenue, two lots, \$9,500; Avenue A, northeast corner 85th street, five lots, \$14,425; Madison avenue, northeast corner 77th street, five lots, \$62,000; 2d and 3d avenues, 101st and 102d streets, the block, about fifty-two lots, \$80,000; 2d avenue, southwest corner 105th street, four lots, \$12,000; 3d avenue, southeast corner 75th street, twelve lots, \$68,000; 3d avenue, northwest corner 84th street, six lots, \$70,000; 4th avenue, northwest corner 76th street, three lots, \$18,000; 4th avenue, west side, 100.10 north 110th street, two lots, \$2,600; 5th avenue, east side, 50.5 south 63d street, two lots, \$70,000; 5th avenue, northeast corner 65th street, three lots, \$87,500; 5th avenue, east side, 50.5 north 67th street, one lot, \$32,500; 5th avenue, east side, 52.2 south 84th street, two lots, \$40,000; 5th avenue, southeast corner 97th street, five lots, \$35,000; 8th avenue, west side, 15.5 south 71st street, two lots, \$30,000; 9th avenue, northwest corner 106th street, four lots, \$14,250; 9th avenue, northwest corner 208th street, eight lots, \$2,780; 10th avenue, northeast corner 106th street, nine lots, \$40,000; 10th avenue, southwest corner 121st street, four lots, \$14,000; 10th avenue, southeast corner 211th street, four lots, \$2,200; 11th avenue, southeast corner 97th street, five lots, \$14,000.

lard residence, on the northwest corner of Broadway and 10th street, was being converted into stores. Lake & McCreary in that year purchased the corner of Broadway and 11th street, opposite Grace Church, for business purposes. Arnold, Constable & Co. had begun to build at the southwest corner of 10th street and Broadway. These were the chief of the advance guard. The new Tammany Hall had been recently completed. Plans had been filed for five stores on the northwest corner of 18th street and Broadway, also for the Grand Hotel, southeast corner of Broadway and 31st street, which was to cost \$250,000. The Young Men's Christian Association Building, at Fourth avenue and 23d street, was under way. In 1870 the Park Hotel, not then intended for a caravansary, was built; Lord & Taylor's Broadway store was in the course of erection; Tiffany's iron building was erecting; the Masonic Temple on 23d street had been commenced; likewise Bryant's new Opera House (later Koster & Bial's) on the same street west of Sixth avenue. The Gilsey House had been started. Much building, though not of a commercial character, had been done (about 1870) between 32d and 52d streets, Fifth and Lexington avenues. The Church of the Messiah, No. 61 East 34th street, was completed, so were the Astor houses on Madison avenue, 34th and 35th streets, and the Hospital for the Lame and Crippled, Lexington avenue and 37th street. The Church of the Covenant, on the northwest corner of Park avenue and 35th street, and a fine residence on the southwest corner of Park avenue and 39th street, from designs by the architects Renwick and Sands, were building. The Grand Central Depot was under construction. St. Bartholomew's Episcopal Church, on the southwest corner of 44th street and Madison avenue, was commenced, also the Collegiate Reformed Episcopal Church, on 48th street and Madison avenue, and the Presbyterian Church on the same avenue at 53d street. The foregoing facts serve to indicate the character of the work and development that was in progress in the district we are speaking of. It was plain New York was moving up into the central part of the island. The city had quite outgrown the old limits. Expansion was a necessity. Schemes were on foot for relieving the pressure

of traffic on Broadway by means of thoroughfares on the East Side. The proposition for widening Broadway north of 17th street was under active discussion. People were debating between the extension of Centre street northward to 4th street, bending at 4th street into a crescent to meet Third or Fourth avenues, and the proposition to widen Elm street. The opening of Madison avenue north of Madison square was also on the card. Indeed, it was in February, 1868, that the opening of that avenue from 86th street to 120th street was ordered.*

In 1872, in the new fashionable district which was creating within the area roughly bounded by 42d and 59th streets, Madison and Sixth avenues, there were 200 costly buildings in the course of erection. It was an era of high prices, due to paper money, and the extravagant cost of building will be sufficiently indicated by the following table:

Mechanics' wages for day of 8 hours..	\$5 to \$8.
Labor wages	\$2.75 to \$3.25.
Hard Bricks	\$14 to \$18 per thousand.
Cement	\$2 to \$2.25 per barrel.
Lime	\$1.50 to \$1.75.
Timber	\$25 to \$30 per 1,000.
Georgia Pine	\$50 to \$60.

*As to the value of property in this central district, the following transcript from the official conveyances will serve as indications: Four lots, northwest corner of 7th avenue and 39th street, sold in 1868 for \$38,000; 165 Waverley place, 25x105, brought \$24,000; the southwest corner of Madison avenue and 45th street was purchased for \$18,000; the west side of Broadway, 25.7 north 49th street, 50x99, was sold for \$32,500; 23d street, south side, 161 west of 5th avenue, 20x98.9, sold for \$55,000, and 399 6th avenue, 20x100, for \$28,400. John Hoey purchased the southwest corner of 5th avenue and 22d street for \$115,000. Broadway, northwest corner 11th street, 76.7x196.7x23.1x178, was sold for \$321,000; Broadway, southwest corner 19th street, 82x171, for \$375,000; Broadway, west side, 25.7 north 49th street, two lots, for \$32,500; Lexington avenue, northeast corner 46th street, five lots for \$31,000; Madison avenue, northeast corner 34th street, four lots for \$55,000; 1st avenue, northeast corner 47th street, six lots for \$35,000; 4th avenue, west side, 98.9 north 38th street, four lots for \$61,000; 6th avenue, northeast corner 23d street, 98x141, the plot, \$340,000; 7th avenue, northwest corner 39th street, four lots, \$38,000. A year later, in 1869, 38th street, south side, 100 east 11th avenue, three lots were sold for \$8,500; 43d street, north side, 125 east of Lexington avenue, two lots for \$15,000; 44th street, south side, 275 east 11th avenue, two lots for \$4,000; 46th street, north side, 200 west 9th avenue, three lots for \$12,000; 4th avenue, southwest corner 36th street, four lots for \$75,000.

It remains only to be said that in the early seventies the apartment house or French flat was introduced. The Stuyvesant in 18th street, between Third avenue and Irving place, from designs made by Mr. Richard M. Hunt, was the first of the class, and it was followed shortly by the Haight houses at the corner of Fifth avenue and 15th street. The Albany, the Saratoga, the Knickerbocker, the Florence, the Osborne do not belong to this period. Although the first apartment buildings were said to have been, financially, very successful—as much as 30 per cent., it was reported, having been made in some instances in the first four years—the new idea at the beginning was not popular. It was even opposed, and not for some years, until after 1873, did the public take kindly to what is now one of the chief institutions of the metropolis.

The only part of the city that remains to be considered is the down-town wholesale district. We have already indicated that in 1868 it was the seat of important building operations which within a few years revolutionized the character of this, the oldest portion of the metropolis, and greatly multiplied the productiveness of its real estate. Indeed, within this district the builder has always been the most important factor in enhancing the value of real estate. Improvements in rapid transit, of course, have not been without effect there, but they have worked indirectly by aiding the conversion of the district to business purposes. The depopulation of this section has been slow but continual during the past thirty years. In 1868 the residents of the First, Second, Third and Fifth wards numbered 47,392, whereas in 1895 the population was only 28,163 (police census), in spite of the great growth of the city elsewhere and the denser peopling of the isolated residential spots that remain in these lower wards resulting from the introduction of the tenement house system. In 1868 the work of replacing the older office buildings, which were really little more than private houses on a large scale, by modern specialized structures had commenced, and it is curious to note that the newspapers were among the first innovators in this movement as they have been more recently in the erection of the tower-like sky-scrapers. The "Times," as far

back as 1859, had erected its once familiar headquarters, since replaced by the present Romanesque structure, and in 1868 Oswald Ottendorfer purchased for \$250,000 the corner on Chatham street and Tryon row, on which to build the new building for the "Staats Zeitung." In 1866 the "Herald" put up its old building, on the corner of Ann street and Broadway; and in 1873 the "Tribune" led the way to still higher altitudes than had been reached by any other building with the edifice in which it is at present housed. We have already spoken of the Park Bank Building, the New York Life Insurance Co.'s Building, the Equitable Life Assurance Society's Building, all under way in 1868. The generation that witnessed the erection of these structures regarded them as enterprises of startling extravagance.

The wholesale dry goods district at this time extended to Canal street; and the erection of warehouses was beginning to disturb the peace which had hitherto prevailed among the dwellings on Lispenard and Church streets. Broome street, near Greene street, was also then invaded by the growing commercial necessities of the city. The extent of building operations in this district is shown in the fact that in June, 1868, \$3,345,000 worth of new buildings were in progress on Broadway alone, south of 14th street.

Our review of the city is now complete, and we come to the dark days of 1873, when the nation entered the wilderness of low prices and financial depression, whence it did not emerge until 1879. It is scarcely necessary to remind the reader that all departments of industry suffered during these times, and real estate fared no worse than did other commodities. Indeed, it suffered less than some.

Property down town changed hands infrequently then as now. The following transactions come from the records for the years 1868, 1869, 1870 and 1871, and serve to give the reader an idea of the range of values: Broadway, No. 153, sold for \$50,000; Nassau street, northeast corner of Pine street, 76.11x71.7x81.3x70.5, the plot, for \$470,000; Nassau street, southeast corner of Cedar street, 73.1x71.7x65.7x73.3, the plot, for \$500,000; Bowery, No. 179, 25.3x104, International Insurance Co., with building, \$165,000; Broadway, No. 294, 24x130, to George Sloane, with building, \$150,000; Broadway, northwest corner Washington place, the New York Hotel, the plot, with building, \$1,095,000 (sold since practically for land alone, for \$1,300,000); Broadway, northeast corner 21st street, four lots with buildings, to Wm. M. Tweed, \$600,000; Pine street, No. 11, 23.9x73.9, March 10, 1871, \$65,800; No. 58 Pine street, John P. Coffin to Cornelius Bogert, \$25,000; Reade street, Nos. 137 and 139, 50x75, \$24,000; No. 55 Ann street, \$22,700; 316 Broome street, \$12,000.

The sad auditing of extravagances, inflation, wild speculation, unsound economic practices began with the failure of Jay, Cooke & Co., on September 18, 1873. The height of the acute stage of panic was reached on the 20th, when the Union Trust Co. suspended and the Stock Exchange closed its doors. The duration of the panic was about one month, and, as is usually the case, securities felt the shock first, then general business, and, last of all, real estate. Indeed, it was not until the fall of 1874 that the process of liquidation actually began in real estate. However, the process, once started, was a long one; it continued for fully three years. Naturally the inflation of values north of 59th street was pricked in an instant. The equities of thousands of property owners were wiped out as with a sponge. But the destructive process did not stop with the obliteration of the purely fictitious. The decline wrought havoc with legitimate values. All property suffered—suffered severely. For a time there was really no market by which one could discover the plane of prices. Everything that was sold was slaughtered, and, in a multitude of cases, selling was merely the process by which the mortgagee gathered up the remnants of what was left. It is estimated that fully one-half of the speculative builders, who were so busy in 1872, disappeared, and their exit from the field with the lot speculators was followed by a perfect avalanche of foreclosure sales, or rather, we should say, of foreclosure proceedings, which went by the name of sales. Below are the statistics of these transactions:

1871	total foreclosures from Jan. 1 to Dec. 31	....	674
1872,	" " " "	....	1,012
1873,	" " " "	....	1,152
1874,	" " " "	....	1,521
1875,	" " " "	....	1,744
1876,	" " " "	....	2,533
1877,	" " " "	....	2,259
1878,	" " " "	....	2,378
1879,	" " " "	....	1,513

It might be thought that with the merest indication of the actual state of affairs the whole situation would be apparent to everybody.

Yet, astonishing as it may seem, it must be recorded that so corrupted was the commercial judgment of people that in face of the disaster overwhelming them they did not at first recognize the real nature of their position. It will be remembered that in the midst of the panic Secretary Richardson, at Washington, inaugurated another inflation movement which had a short duration of about nine months. Incomprehensible as it may seem, while it lasted, real estate operations actually were renewed on almost as extravagant values as those prevailing before the crash. A demand for realty rose in the spring of 1874 which almost equalled the extraordinary activity of the spring and fall of 1868. Grant's famous veto put a stop to the insanity, and then the long period of depression and stagnation began in earnest.

The Period of Stagnation.

The second stage of our history is now reached. Roughly speaking, it comprises the years 1874 to 1879 inclusive. As to the causes that produced and intensified the panic of '73 and the stagnation that followed they undoubtedly were: An inflated and irredeemable currency, delay in providing the city with adequate rapid transit facilities, extravagances in building, abuses of the building loan system, an abnormal condition of labor, dishonest and incompetent administration of the city government under the Tweed regime, the large amount of trading done upon inadequate capital.

In proceeding to a discussion of the factors that slowly made themselves felt in the production of better times, the first that has to be set forth is this—the destruction of values that resulted from the panic was, with an immense amount of realty, excessive. This imparted a certain latent strength to the situation. Of course so long as the downward pressure was exerted to the utmost, this could not be manifested, but the strain once removed, rebound was inevitable. It was long, however, before the market received any visible advantage from its latent strength.

Another circumstance that aided the market, though it operated very slowly, was the vast accumulation of funds in the vaults of

the banks and other financial institutions. True, for a long time this sequestered capital was very zealously guarded, and far from supporting or promoting ordinary operations was as good as non-existent. Owners would neither lend nor use it. But there it was; and locked up money, like a dammed stream, exerts a continual pressure against its restraints. It percolates and leaks through the smallest fissure and continual accumulations inevitably result in an overflow. Thus, while the locking up of money assisted greatly in depressing values and even in lowering prices beyond the warrant of facts, it created opportunities for investment and profit which in the end proved too attractive to be resisted. As early as 1876, one by one, here and there, capitalists began to pick up the bargains in real estate obtainable in every class of property in every part of the city. The big companies, the wealthier house buyers entered the market and the slow process of absorbing the surplus stock of houses and buildings commenced. The builders and professional speculators took no part in this movement. It was quite beyond their power to do so. In 1874 there was a complete cessation of building operations in the new fashionable residential district between 42d and 59th streets, Madison and Sixth avenues. The panic found scores of houses there tenantless, and prices fell so that by 1876 first-class residences which could not be purchased for less than \$85,000 in 1873 could readily be acquired for \$60,000. A great deal of this decline was legitimate enough, due to the fall in wages and materials. Dwellings that cost \$50,000 merely to put up in 1873 could in 1876 be easily duplicated for \$35,000. We have already given a table showing the cost of wages and materials in the former year. It will be interesting to present here for the sake of comparison a similar table for the latter year:

Mechanics' wages (10 hours a day in place	
of 8 as formerly)	\$2
Laborers' wages (do)	75c. to \$1.
Hard bricks	\$6 per thousand
Cement	\$1 to \$1.25 per barrel.
Lime	75c. to \$1 per barrel.
Lumber	\$15 per thousand.
Georgia pine	\$16 to \$18.

After the panic the first houses to find purchasers were the costliest. We have said that in 1872 there were 200 of these in the course of erection in the fashionable district. One by one they were taken off the market at prices that were ruinous to builders, so that at the beginning of 1876 there were only thirty-eight of these (and the few others that had been built in the meantime) remaining unsold. Purchasers of medium-priced dwellings were almost entirely absent from the market at first, but after a time they too came following in the wake of the richer investors. By 1877 the effect of this slow absorption was visible, the supply of buildings was far below the average. Concurrent with this process went similarly great transactions in lots.

In the fashionable district there were about three hundred and fifty vacant lots when the panic arrived. Many of these passed slowly into the hands of wealthy purchasers and a few strong, conservative builders. Millionaires like Wm. Rockefeller, Bostwick and Stevens began building on upper Fifth avenue, near the Park, and by the 1st of January, 1877, extensive operations were in progress in the 50th streets, between Fifth avenue and Fourth avenue, conducted by builders Duggin & Crossman, O'Reilly, Rathbone, Byrnes, Hamilton, Bradley & Co., McManus, Phyfe, Lynch and others; indeed, it is to be noted that it was about this time that the limits of the seat of building operations were extended several blocks northward on the East Side above 59th street. It thus happened that there were appearances of something like prosperity in this part of the city. Lots above 59th street, east of the Park, the district which, as we shall find, was to engage the builders' attention until the next decade, had declined enormously in value. Choice lots that brought \$35,000 in the days of the inflation were selling for \$11,500, and somewhat less desirable lots for \$6,000 to \$8,000. Avenue lots, opposite the Park, that sold in speculative times, corners for \$100,000, inside lots for \$75,000, could be bought for \$40,000 and \$25,000. These figures give a good idea of the intensity of the slump that followed the panic.

While these improvements were slowly making themselves visible in the northeast, large capitalists were contributing immensely

to strengthen the situation down town and elsewhere. The Western Union Headquarters, the "Tribune" Building, the American News Company's Building on Chambers street (the site of the old Burton's Theatre, for which the present proprietors paid \$180,000), the Jefferson Market Police Court, the Bennett Building, Fulton and Ann; Booth's Theatre, the Domestic Sewing Machine Company's Building, on Union square; Chickering Hall, the Church of the Paulist Fathers and others, were commenced. Moreover, the early years following the panic witnessed the actual introduction into New York of the apartment house as we know it to-day. We have already alluded to the first enterprises with this class of buildings and have pointed out that though they encountered a great deal of adverse criticism on the score of intruding an element of publicity into home life, they evidently satisfied the requirements of many persons. Financial success not only prompted investors and builders to erect others, but to set about to develop this new type of residence. Between 1873 and 1879 the apartment house was thoroughly naturalized or localized in New York. The most important of these buildings then erected were the Knickerbocker, on the southwest corner of Fifth avenue and 14th street, on the site of the old residence of Myndert Van Schaick; the Berkeley, on Fifth avenue and 9th, built by the Rhinelander estate on land that had remained long vacant; the Albany, the Saratoga, the Stevens, and in June, 1876, the Osborne, due to the enterprise of Duggin & Crossman. In 1877 the Bradley apartment houses on 59th street, between Fifth and Sixth avenues, were commenced.

The buying and building of this period was mostly in strong hands. In November, 1876, Joseph Harper bought the dwelling on the corner of Fifth avenue (No. 562) and 46th street, for \$82,500; the southeast corner of Fifth avenue and 29th street was sold for \$120,000; in 1877 W. H. Vanderbilt acquired No. 691 Fifth avenue, between Fifty-fourth and Fifty-fifth streets, from Stephen U. Cadwell, who gave \$70,000 for the property; Nos. 87 and 89 Wall street were purchased by George W Denton for \$110,250; No. 599 Fifth avenue sold for \$72,750; D. H. McAlpine acquired No. 373 Broadway, 24.10x150, for \$125,000; the Queen Insurance Com-

pany began their building at Nos. 37 and 39 Wall street; August Belmont bought the block between St. Nicholas and Seventh avenues, 112th and 113th streets, for \$50,000; the iron store building at Nos. 5, 7 and 9 Union square (destroyed by fire in 1876 and recently replaced by the Spingler Building), to cost \$110,000, was commenced, so was the office building at No. 43 Wall street, the estimated cost of which was \$125,000. The Lorillard, Wolf, Rhineland and Roosevelt estates made extensive improvements upon their several properties. The Roosevelt estate erected on the site of the old homestead, on Broadway, near 13th street, the store now occupied by Mitchell, Vance & Co. The Ottendorfer building, on Fourth avenue and 26th street, "The Bella," was started, so were structures by Mr. Little, at Union square and 17th street, by Matthews, at Fourth avenue and 18th street. Altman's store, on Sixth avenue and 18th street, was commenced in 1877, and down town, on the block bounded by Worth, Elm, Pearl and Broadway, the ancient and dilapidated rookeries that stood there were replaced by modern business buildings. Many improvements at the lower part of Wooster street were begun. The work of

The following representative sales show the range of prices that obtained for vacant lots (the asterisk denotes building loan transactions):

Fifth Avenue.—Conveyances were extremely limited on the avenue after the panic. In the spring of 1875 Duggin & Crossman bought of W. S. Gurnee 40 feet front on the block between 47th and 48th streets, at the rate of \$45,000 for a full lot. A year subsequently Wm. Rockefeller purchased of Jacob Vanderpool the full lot on the northeast corner of 54th street and 5th avenue, for \$50,000. About a year later Edward Silleck purchased of C. & R. Poillon a full lot in middle of block, between 52d and 53d streets, next adjoining the Osborne House, for \$35,000. Some element of trade is supposed to have entered into this valuation.

Madison Avenue.—Conveyances were numerous and noteworthy, although the avenue seemed threatened with a total and fatal eclipse after the establishing of the horse-car route through its entire length. The prejudice against this intrusion gradually wore away, and the brilliant success of a firm of builders in disposing in the spring of a whole block of houses on this avenue immediately on completion encouraged other projections. Cash transactions indicate prices ranging from \$12,000 to \$15,000 per lot, including corners: Between 44th and 45th streets, Livingston to Duggin, 2 lots, \$14,250 each;* between 45th and 46th streets, Hemenway to Bellman, 10 lots, \$19,800 each; southwest corner 54th street, Connell estate to Dinklespiel, 4 1-5 lots, \$15,000 each; southwest corner 54th street, Dinklespiel to Hennessy, 4 1/3 lots, \$16,250 each;* southeast corner 55th street, Barnum to Duggin, 3 lots, \$12,000 each; northeast corner 55th street, Jones estate to Episcopal Church, 3 lots, \$15,000 each; southeast corner 56th street, Jones estate to Duggin, 5 lots, \$13,000 each.

The bulk of the transactions in lots occurred on the side streets as the most popular and salable property when improved, the lots, besides, admit-

modernizing the older buildings on 14th street was carried along. Clearly these transactions indicate very 'substantial progress. Yet the market continued dull, foreclosures were numerous, speculation was dead, rents were low—only half of what they had been—the long process of liquidation was not complete. General business, however, throughout the country was picking up slowly, the mercantile world was emerging from the woods. There was a plethora of money in the banks, and one of the beneficial results of this was felt in 1876 when the rate of interest upon mortgage loans was reduced from 7 to 6 per cent. and 5 per cent. for gilt-edge security. Funds could then be obtained freely for first-class operations, and in a short time this favorable circumstance began to stimulate building. The building loan operator entered the field with activity at this period, so that in July, 1877, of 500 dwellings then in course of construction by builders only seventeen had been started without the assistance of a loan.

In 1878 we touch a decided activity in building; indeed, the tone of the entire real estate market had improved considerably. During 1877 many large investments for improvements, including the

ting of more economical and judicious treatment in building. The prices in strictly cash transactions indicate a range of from \$11,250 to \$14,500. The purchase of two lots on 58th street, opposite the Plaza, for \$20,000 each, made at this time by Bryan McKenna, is exceptional in price and location; *53d street, between Madison and 4th avenues, Lowe to Darragh, 7 lots, \$15,000 each; 54th street, between 5th and 6th avenues, Dinklespiel, purchaser, 7 lots, \$12,250 each; *54th street, between 5th and 6th avenues, Dinklespiel to Lynd, 7 lots, \$14,000 each; 55th street, between Madison and 5th avenues, Jones estate to Ely, 2 lots, \$14,500 each; 56th street, between Madison and 5th avenues, Jones estate to Smith, 6 lots, \$13,000 each; *56th street, between Madison and 5th avenues, Smith to Lynd, 6 lots, \$14,500 each; 56th street, between Madison and 4th avenues, Jones estate to Webb, 1 3-5 lots, \$11,250 each; 57th street, between Madison and 4th avenues, Stewart to Duggin, 7 lots, \$14,000 each; *57th street, between 5th and 6th avenues, Einstein to Sullivan, 2 lots, \$25,000 each; 58th street, between 5th and 6th avenues, Ferris estate to Smith, 9 lots, \$12,500 each; *58th street, between 5th and 6th avenues, Smith to McManus, 9 lots, \$16,000 each; *58th street, between 5th and 6th avenues, Morton to McKenna, 3 lots, \$16,000 each; 58th street, between 5th and 6th avenues, Smith to Dowdney, 2 lots, \$12,000 each; *58th street, between 5th and 6th avenues, Marsh to McKenna, 2 lots, \$20,000 each.

The subjoined table shows the range of prices in respect to improved property:

Fifth Avenue.—The sales on this avenue were so few as to afford little variety of quotation: Southwest corner 44th street, Brokaw purchaser, 28x125, 4-story brownstone, \$115,000; between 47th and 48th streets, east side, Duggin seller, 2 each 18x65x100, 4-story brownstone, \$52,500 and \$60,000; between 48th and 49th streets, east side, Brokaw purchaser, 27x70x100,

purchase by David McAlpin of the Sweeny block, on Broadway, between 33d and 34th streets, had been made, and at this time the transaction was consummated which was in a sense the turning point of the destiny of the West Side. Edward Clark purchased the block of thirty lots on Eighth avenue, between 72d and 73d streets, and the adjacent block of twenty-eight lots on Ninth avenue.

During the years of depression the West Side has been in a large measure neglected. Of building operations there were none. All the great public plans for improvements which had an effect so stimulating during the years of the boom were allowed to lie dormant; and to such a low point had the fortunes of real estate in this district fallen that even the street openings and the other few similar betterments ordered from time to time were so great a burden that property-owners appealed to Mayor Ely for relief. The value of lots, of course, had fallen immensely. Good street lots could be obtained for from \$2,000 to \$3,000; Ninth and Tenth avenue lots for from \$4,000 to \$5,000; Eighth avenue lots that prior to 1873 had commanded such exorbitant figures were now on the market for prices ranging from \$7,000 to \$15,000, according to location. Undoubtedly, the reaction carried prices below the in-

4-story house, \$72,500; between 49th and 50th streets, west side, Duggin seller, 15x125, leasehold, \$32,500; between 50th and 51st streets, west side, Labau purchaser, 25x60x125, leasehold, \$65,000.

Madison Avenue.—Sales principally confined to houses of the Duggin & Crossman make, of such original and peculiar construction as hardly to furnish a general standard: Between 44th and 45th streets, east side, Wainwright purchaser, 25x60x100, 4-story, brownstone, \$32,500; between 53d and 54th streets, east side, Hamilton seller, 2 each, 20x65x85, 4-story, brownstone, \$30,000; between 55th and 56th streets, east side, Duggin seller, 18x60x100, 4-story, brownstone, \$26,000; between 55th and 56th streets, east side, Duggin seller, 32x48x60, 4-story, brick, \$35,000; southeast corner 56th street, east side, Duggin seller, 25x50x60, 4-story, brick, \$33,000.

Side Streets.—The greatest variety of sales and the most intelligible standard of values were to be found on the side streets. By the transactions reported we seem warranted in quoting these assorted values, the locations and qualities of buildings being technically first-class. For a 16 or 17-foot front house and lot, \$24,000 to \$25,000; for a 20-foot, \$28,000 to \$32,500; for a 22-foot, \$32,500 to \$35,000; for a 25-foot, \$40,000 to \$45,000. 43d street, 5th and Madison avenues, Lustig seller, 16.8x60x100, \$25,000; 46th street, 5th and 6th avenues, unknown seller, 20x50x100, \$24,000; 49th street, 5th and 6th avenues, McCafferty seller, 16x60x100, \$24,000; 54th street, 5th and 6th avenues, Bradley seller, 16.8x65x100, \$24,000; 54th street, 5th and 6th avenues, Lynd seller, 2 each, 20x65x100, each \$32,000; 54th street, 5th and 6th avenues, Lynd seller, 23x65x100, \$35,000; 58th street, 5th and 6th avenues, McManus seller, 20x50x100, \$28,000 and \$32,000; 58th street, 5th and 6th avenues, McKenna seller, 3 each, 25x75x100, each \$44,000; 52d street, 5th and 6th avenues, Union Dime seller, 25x70x100, \$44,500.

trinsic worth of property, and during 1876 and 1877 some capital was put into West Side realty, just as it was going, but in much larger amounts into the East Side property. During the hard times many large blocks of property were sold at auction. In July, 1876, thirty-three lots between Riverside and Eleventh avenues, 90th and 91st streets, were put under the hammer and fetched \$75,-850, or \$2,298.50 per lot. This property had been owned by Cyrus Clark for about ten years. The Furniss property was also sold. On May 17, 1877, the Morris estate sale was held of lots on Grand Boulevard and 152d street. In the heart of what was then Car-mansville, at 122d and 123d streets, close to Morningside Park, twenty-three lots on the latter street brought \$16,245, the lots on 122d street selling for \$625 to \$720 each, and the 123d street lots at \$565 each. For the purpose of contrast it is interesting to note that in April, 1873, before the panic, four lots on the south side of 122d street, 200 feet west of Tenth avenue, directly opposite the Morris lots, sold under foreclosure for \$3,400 each. We have already spoken of the block August Belmont purchased, between St. Nicholas and Seventh avenues, 112th and 113th streets, for \$50,000. This purchase was made May, 1877. The auction sales of large blocks of property throughout these years were numerous, but as an offset it must be remembered that many of the sales that ostensibly were bona fide were really bogus.

The Period of Development, 1879 to Date.

The year 1879 brings us to the close of the period of stagnation. We have enumerated above some of the factors that aided in bringing about better times for real estate, but there are others now to be mentioned. The country had not only quite recovered from the depression produced by the panic, but by readjustment of its affairs and the enforced economy incident to dull times had acquired a large fund of capital and confidence. In 1879 New York real estate first began distinctly to feel the improved conditions. Prices were still low and money was cheap and abundant, population had greatly increased and was pressing somewhat upon the domi-

ciliary and mercantile accommodations of the city. Besides, taxes* had been reduced from the extravagant limits that prevailed in 1873, and what is of still greater importance the elevated railroads were beginning to perform a service for the metropolis which gave them the first place among the rapid transit facilities of the city.

As to the elevated roads, they played so important a part, one might almost say the capital part, in the revived activity in real estate during 1879-80 and the years following that it will not be out of place to set down here the chief points in the history of the extension and development of this system. We have already referred to the fact that among the plans that were before the people in 1868 for improved rapid transit was one for an elevated road system. Indeed, as early as July 1, 1867, an experimental section of elevated structure was commenced on Greenwich street, from Battery place to Cortlandt street, and was completed May 10, 1868. A single car was then run between these two points, no fare being charged, this fragment of the system having been constructed simply to demonstrate the feasibility of the new method of locomotion. It cannot truthfully be said that the device captured at first either the imagination or the favor of the public. On the contrary, it was much frowned upon by them as a disfigurement to the streets of the city, and engineers and railroad men increased the popular disfavor by pronouncing the scheme to be decidedly chimerical and foolhardy. Indeed, of all the projects before the city in 1868, perhaps there was none to which New York seemed less committed than the elevated roads. The system, however, possessed that

*The following table exhibits the reductions made in the charges upon real estate:

	Mortgages. Estimated Yield of their Taxation.	Assessm'ts Street Openings and Im- provem'ts.	Annual Taxes.	Totals.	Croton Water Taxes.
1869.....	\$1,500,000	\$4,402,690	\$15,509,245	\$21,441,935	\$1,266,520
1870.....	1,500,000	5,715,064	16,699,531	23,914,595	1,322,801
1871.....	2,500,000	5,944,057	16,698,840	25,142,897	1,304,163
1872.....	2,500,000	1,647,894	23,129,137	27,277,031	1,388,709
1873.....	3,000,000	10,291,915	20,919,822	34,211,737	1,338,092
1874.....	3,000,000	3,625,006	24,683,343	31,308,349	1,419,423
1875.....	1,500,000	5,162,018	25,979,120	32,641,138	1,377,561
1876.....	1,500,000	4,756,337	24,987,988	31,244,325	1,350,000
1877.....	1,000,000	2,777,242	23,719,194	27,496,436	1,428,659
1878.....	1,000,000	1,569,239	22,964,902	25,534,141	1,546,301

Caliban quality, cheapness, which has forced the elevated roads, one after another, into the streets and avenues of New York until the usurpation furnishes a unique example of civic prostitution of appearances to utility. The experimental line was slowly continued north of Cortlandt until on February 14, 1870, it was completed to 31st street and Ninth avenue. At first the road to this point was operated by an endless chain system driven by stationary engines placed underground. This method of traction proved a failure and the service was irregular and intermittent until April 20, 1871, on which date one dummy engine and three cars were placed on the line and run between Dey and 29th streets—the only two stations then existing. On January 4, 1873, extensions and repairs having been completed, the line was opened southward to No. 7 Broadway, at which point another station was established. Further extensions of the Ninth avenue line followed slowly in the following order: July 30, 1873, to 34th street and Ninth avenue; November 6, 1875, to 42d street and Ninth avenue; July 18, 1876, to 59th street and Ninth avenue; April 15, 1877, to South Ferry. On June 9, 1879, the main line double track was extended from 59th street and Ninth avenue to 83d street and Ninth avenue and opened for business with stations at 72d and 81st streets. The Ninth avenue division was operated at first until May 2, 1880, as a single line road with turn-outs. It was then entirely rebuilt and opened as a double track system.

The Sixth avenue line from Morris street to 59th street and Sixth avenue was opened June 5, 1878, and additions in the following order: Fifty-third street and Sixth avenue to 53d street and Eighth avenue, February 25, 1879; 53d street and Eighth avenue to 81st street and Ninth avenue, June 9, 1879; 81st street and Ninth avenue to 104th street and Ninth avenue, June 21, 1879; 104th street and Ninth avenue to 125th street and Eighth avenue, September 17, 1879; 125th street and Eighth avenue to 135th street and Eighth avenue, September 27, 1879; 135th street and Eighth avenue to 155th street and Eighth avenue, December 1, 1879; Morris street to South Ferry, November 1, 1881.

The Third avenue line was opened for business between South

Ferry and 42d street and Fourth avenue, August 26, 1878; from 42d street and Third avenue to 67th street and Third avenue, September 16, 1878; 67th street and Third avenue to 89th street and Third avenue, December 9, 1878; 89th street and Third avenue to 129th street and Third avenue, December 30, 1878. The first excursion train from South Ferry to 129th street and Third avenue was run December 24, 1878.

The Second avenue line from Chatham square to 67th street, was opened March 1, 1880, and from 67th to 129th street August 16, 1880.

The Suburban line was opened between 128th street and Second avenue and 133d street, May 17, 1886; to 143d street, May 23, 1886; to Harlem River Bridge, November 29, 1886; to 156th street, July 1, 1887; to 166th street, December 25, 1887; to 170th street, September 29, 1888; to Wendover avenue, May, 1891; to 177th street, July 20, 1891; to Willis avenue, July 18, 1891.

The foregoing makes the fact clear that it was in the years 1879-80 that New York began to experience the effects of adequate rapid transit facilities, and to this fact probably more than to all others put together is due the activity in real estate and the increase in values that commenced in those years. In 1879 the new elevated roads contributed much to the increasing strength of the market. Particularly on the upper East Side they stimulated the builder, who was already busy in that district. It was early in that year (1879) that the New York Elevated Railroad Company purchased the block, then used as the cattle-yards of Dutcher & Allerton, bounded by Third and Fourth avenues, 98th and 99th streets, paying for the property \$120,000. At once a great number of tenements were erected in the streets adjoining Second and Third avenues, east and west, and between Madison and Fourth avenues, and adjacent thereto as far north as 125th street the speculative builder was active putting up row after row of stereotyped brownstone residences. In one week, that ending May 24, 1879, plans were filed for sixty-two dwellings to be erected on Madison and Fourth avenues, 112th, 114th, 115th and 124th streets. Prices were advancing, but were still much below the figures ruling before the panic. For instance,

the block 201.10x420, between Fifth and Madison avenues, 106th and 107th streets, was sold to William P. Van Valkenburgh for \$180,000. In 1873 the same property was sold to T. A. Vyse for \$370,000. Charles M. Field paid \$204,050 for the property in 1878. Still the upward tendency of prices was marked. There was a brisk demand for lots, not altogether normal, it is true, due to the unhealthy stimulus of the building loan, and there was a decided activity in the house market. Population was spreading into the East Side, now that rapid transit was secured, and it was clear that in that section of the city was to be continued the expansion and development which had formerly been confined to the central district, south of 59th street. Substantial capitalists began to operate on the East Side, and the northeastern part of the island. Arnold, Constable & Co. from time to time acquired much property there, and late in 1879 paid \$200,000 for two blocks on the east side of Sixth avenue, between and upon 135th and 136th streets. Everywhere on the East Side people were buying and selling and building.* Population was pouring into the district. Not only was

As to the character and location of the new work, the following record of new houses started in the fall of 1879 above 59th street, extending from 3d to 5th avenue, one year after the first excursion train was run over the 3d avenue elevated road to 129th street, shows both:

59th st, n s, e of 5th av, 6 brownstone houses, Mr. Todd, owner; 61st st, s s, cor 4th av, store and residence, F. Ehrmann; 61st st, s s, e of Madison av, 2 brownstone houses, J. M. Hazeltine; 61st st, n s, w of Madison av, 2 brownstone houses, Parsons & Breen; 61st st, n s, e of 5th av, residence, W. B. Isham; 62d st, n s, e of Madison av, 3 brownstone houses, James McDonnell; Madison av, w s, n of 62d st, 10 brownstone houses, I. E. Doying; Madison av, e s, cor 63d st, brownstone flat, Jas. Campbell; 63d st, s s, e of Madison av, 5 brownstone houses; 63d street, n s, e of 5th av, 4 brownstone houses, Mr. Williams; 63d st, s s, e of 5th av, 3 brownstone houses, Mr. Sinclair; 64th st, s s, w of Madison av, 2 brownstone houses, Wm. Johnson and D. & J. Jardine; 64th st, n s, w of Madison av, 4 brownstone houses, Mr. Croft; 64th st, n s, cor 4th av, 9 brownstone houses, Mr. Cornish; Lexington av, w s, s of 62d st, 4 brownstone houses, Thos. Kennedy; Lexington av, w s, s of 65th st, 6 brownstone houses, Mr. Parsons; Madison av, e s, s of 65th st, 6 brownstone houses, Willett Bronson; 65th st, s s, w of Madison av, 5 brownstone houses, B. Spaulding; 66th st, s s, e of 5th avenue, 4 brownstone houses, Breen, Nason & Hughes; 66th st, n s, e of Madison av, 2 brownstone houses, Breen & Nason; 66th st, s s, e of Madison av, 5 brownstone houses, I. E. Doying; 66th st, n s, w of 4th av, 6 brownstone houses, Willett Bronson; 66th and 67th sts, and 4th and Lexington avs, Seventh Regiment Armory, I. E. Doying; 67th st, s s, w of 4th av, 10 brownstone houses, J. Ruddell; 67th st, n s, e of 4th av, 11 brownstone houses; 67th st, s s, w of Madison av, 8 brownstone houses; 67th st, n s, w of Madison av, 4 brownstone houses, B. Muldoon; 68th st, s s, e of 5th av, 5 brownstone houses, B. Muldoon; 68th st, s s,

land advancing in value, but as early as 1879, due to building activity, the price of materials and labor advanced, though the enhancement at first was not extravagant, as the following table shows:

	1860.	1869.	1878.	Sept.'79.
Bricklayers	\$12@14.00	\$27@30.00	\$12.00@18.00	\$18.00
Carpenters	12 15.00	27 30.00	12.00 15.00	12.00
Gas and steam fitters.....	.. 16.00	.. 21.00	15.00 18.00	18.00
Hod carriers, etc.	9 10.00	16 18.00	9.00 ..	10.50
Marble cutters	16 18.00	24 30.00	15.00 18.00	15.00
Marble polisher	8 10.00	15 18.00	9.00 12.00	10.20
Marble rubber.....	16 18.00	21 24.00	10.00 15.00	10.50
Masons	10 12.00	27 30.00	12.00 18.00	18.00
Painter	12 14.00	21 24.00	12.00 18.00	15.00
Plasterer	12 14.00	30 36.00	12.00 18.00	18.00
Plumber	12 15.00	18 24.00	15.00 18.00	18.00
Quarrymen	8 10.00	15 18.00	7.50 10.50	9.00
Roofer	10 14.00	24 30.00	12.00 18.00	15.00
Stair builder	12 16.00	22 27.00	10.50 13.50	15.00
Stone cutter—blue	15 18.00	24 24.00	10.50 13.50	15.00
brown	15 18.00	27 30.00	12.00 18.00	18.00
Stone rubbers	12 15.00	16 18.00	10.00 13.50	10.50

The fatal weakness in this East Side "boom," for boom it was during the earlier years, was its speculative character and the small amount of hard cash underlying the transactions. The fictitious element in prices was particularly large. Inflated trading was heavy and much of the building was carried on upon extravagant building loans which enhanced the price of real estate ridiculously

e of 5th av, 5 brownstone houses, —; 68th st, s s, e of Madison av, 3 brownstone houses, McCafferty & Bulkley; 68th st, s s, w of 4th av, 5 brownstone houses, Mr. Fowler; 5th av, w s, cor 69th st, brownstone residence, David Dows; 70th st, s s, e of 5th av, 2 Nova Scotia houses, Vanderbilt and Henry Eastman; 70th st, s s, w of Madison av, 5 brownstone houses, Thos. Pearson; 71st st, n s, w of Lexington av, 3 brownstone houses, M. McDonnell; 72d st, s s, e of 4th av, 4 brownstone houses, Mr. Graham; 72d st, n s, e of 4th av, 7 brownstone houses, Mr. Webb; 73d st, s s, w of Lexington av, 5 brownstone houses, Mr. Hennessy; 74th st, n s, e of 4th av, 4 brownstone houses, Aldhous & Smyth; 74th st, n s, e of Madison av, 5 brownstone houses, John Davidson; 75th st, s s, e of 4th av, brick boarding stable, Many & Osborn; Lexington av, e s, n of 74th st, 6 brownstone houses, W. H. Browning; 75th st, n s, w of 3d av, 4 brownstone flats, P. McQuade; 76th st, s s, w of 3d av, 4 brownstone flats, Mr. Stewart; Lexington av, e s, n of 76th st, 6 brownstone houses, H. McKenna; Lexington av, w s, n of 76th st, 6 brownstone houses; 76th st, n s, e of Madison av, 6 brownstone houses; 77th st, n s, e of 5th av, 3 brownstone houses; 77th st, n s, w of 4th av, 8 brownstone houses; 79th st, n s, w of 4th av, 6 brownstone houses, Squires & Woolley; 4th av, e s, cor 80th st, brownstone store and tenement; 80th st, n s, w of Lexington av, 4 brownstone houses; Lexington av, w s, n of 81st st, 6 brownstone houses; 5th av, e s, cor 83d st, brownstone residence, Mr. Arnold; 83d st, n s, w of 4th av, 5 brownstone houses, Mr. Sturtevant; 83d st, n s, e of Lexington av, 6 brownstone houses, Judge Wandell; 85th st, n s, w of 3d av, 3 brownstone flats, Mr. Johnson; 3d av, w s, n of 85th st, 2 brownstone flats; 86th st, n s, w of 3d av, 6 brownstone houses; 87th st, s s, w of Lexington av, 4 brownstone; 86th st, s s, e of Madison av,

before it passed into the hands of the builder, himself in many cases a man of small means. One example of this inflation will be sufficient. Early in 1879 six lots on 76th street, between Fifth and Madison avenues, were purchased for \$30,000. A few months later they were resold with building loans for \$90,000. It was at this period that John H. Deane entered the field. He was particularly active in lower Harlem, from 110th to 115th street. His practice, similar to that of many others, was to buy lots and resell at a heavy advance with a building loan. Dozens of speculative builders were thus induced to begin operations, and under this artificial stimulus prices advanced so quickly that for a time builders were able to borrow from the unwary sums large enough to give them a substantial profit upon their transactions. Among this flimsy speculative class those of bad eminence were Q. W. Hawkes, John Schappert, the infamous Buddensiek, W. H. and R. E. Johnson. So long as there was a rising market and the value of lots could be pushed up a thousand or more dollars a year, and excessive loans were obtainable, all went well. Street after street was built up in a monotony of brownstone. Indeed, in the early days of the period we are now considering the great East Side was created. The movement continued for four years, until 1884, by which time further expansion was impossible. Prices had become stationary and a measure of collapse was then inevitable. In the latter year Deane

2 brownstone houses; 90th st, n s, e of 4th av, 2 brownstone houses, Q. W. Hawkes; Lexington av, s s, n of 91st st, 6 brownstone houses; 94th st, n s, w of 3d av, 6 brownstone houses; 95th st, n s, w of 3d av, 6 brownstone houses; 95th st, s s, w of 3d av, 12 brownstone houses; 3d av, w s, n of 101st st, 5 brownstone flats and stores, Duffy Bros.; Lexington av, w s, n of 104th st, 12 brownstone houses; 109th st, n s, e of 4th av, 8 brick tenements and stores; 105th st, s s, e of 4th av, 5 brownstone houses; 110th st, s s, cor of 4th av, 2 brick tenements and stores; 110th st, n s, w of Lexington av, 3 brownstone houses; 110th st, n s, e of 4th av, 10 brick houses; 112th st, s s, e of 4th av, 6 brick houses; 114th st, n s, e of 4th av, 8 brownstone houses; 115th st, n s, e of Lexington av, 3 brick houses, Mr. Heart; 115th st, s s, w of Lexington av, 4 brownstone houses, B. R. Richardson; 116th st, n s, e of 4th av, 7 brownstone houses; 116th st, n s, w of 3d av, 4 brick houses; 117th st, n s, e of Lexington av, 8 brick houses; 124th st, s s, e of Lexington av, brick residence; 125th st, n s, w of Lexington av, row of flats and stores; Lexington av, w s, n of 125th st, 2 brownstone houses; Lexington av, w s, cor 127th st, brownstone house; 125th st, n s, w of 4th av, brick residence and store; 124th st, s s, e of Madison av, brownstone houses; Madison av, e s, s 124th st, 5 brownstone houses; Madison av, w s, n of 113th st, 6 brick houses; Madison av, e s, n of 111th st, 4 brownstone houses; 111th st, n s, w of 4th av, 10 brownstone houses; 111th st, s s, w of 4th av, 6 brownstone houses; 111th st, n s, e of Madison av, 3 brownstone houses; Madison av, w s, s of 111th st, 5 brick houses.

failed with hundreds of houses, finished and unfinished, on his hands—houses which he had been forced to take from his operators. The auction sale of his holdings was one of the memorable events in real estate history. Hawkes also went under. Wm. H. De Forrest, a silk importer, who backed Mowbray & Lynd Bros., was another famous operator in this movement who subsequently, as we shall see, played an important part in the opening up of Hamilton Grange. Willett Bronson also deserves to be mentioned. The field of his activity was 61st, 62d, 63d streets, between Madison and Fourth avenues. He began work in 1877, and with Ira E. Doying as his builder, erected hundred of houses before, like the others already mentioned, he failed.

It must not be understood, of course, that all the activity on the East Side, the first result of better times, was purely speculative. On the contrary, a great deal of solid work was done, particularly in the more fashionable district immediately north of 59th street. Here such builders as Dugging & Crossman, and their successor, Charles Buek & Co., C. W. Luyster, O'Reilly Brothers, Terence Farley, Breen, Nason & Hughes and others carried on substantial operations which even to this day stamp a solid, if sombre, character upon the better streets on the East Side. Besides, it was during the early years of this period that society firmly intrenched itself in the upper part of Fifth avenue and Madison avenue, adjacent to 59th street. In August, 1879, Wm. H. Vanderbilt purchased the property between 51st and 52d streets at a cost of \$700,000. Indeed, Mr. W. H. Vanderbilt and his family purchased about thirty lots on and contiguous to Fifth avenue at that time. His action was followed by a number of similar investments made by his friends and others. Mr. Vanderbilt also bought for \$50,000, 75x100.5, on the northeast corner of Madison avenue and 52d street. David Dows commenced building a house which cost \$125,000 on the northeast corner of Fifth avenue and 69th street. George W. Quintard bought the northeast corner of 73d street and Fifth avenue, 100x125, for \$165,000. Henry Havemeyer secured the northeast corner of Fifth avenue and 67th street, 50x100. A plot of four lots on the northwest corner of 54th street and Fifth

avenue was sold to Hollis L. Powers for \$200,000. Two lots on Fifth avenue between 56th and 57th streets, were sold by George Bliss, of Bliss, Morton & Co., for \$70,000, Mr. Bliss having paid \$43,000 for these lots a few months previous, buying them from E. W. Strughton, U. S. Minister at St. Petersburg. D. O. Mills at this time purchased a mansion on Fifth avenue, opposite the Cathedral. No. 693 Fifth avenue was purchased by Frederick Vanderbilt for \$125,000, and Henry M. Flagner took title to a house which Griffith Rowe had built on the corner of 54th street and Fifth avenue. Early in 1880 the Stuart Block on 69th street, between Madison and Fifth avenues, was broken up by the sale of nine lots to Mr. J. D. Crimmins, who paid \$27,500 for each of the lots. They are situated on the south side of the street, and it is interesting to note that it was in 1864 that the Stuart brothers bought this property from Mr. James Lenox, paying for the same \$220,000.

In short, the years following 1880 were particularly busy ones on the East Side. Trading was active in all classes of property. Prices advanced, and there was scarcely a block, excepting some on Fifth and Madison avenues, upon which building operations were not under way. At an early date in this period all lots, as far north as 85th street, between Fifth avenue and Madison avenue, passed beyond the reach of the speculative builder and into the hands of the richer classes. Thus before the year 1884, when Deane and operators like him came to grief, the whole East Side was thoroughly defined and prices were so firmly fixed that speculation, in the ordinary sense of the word, had become impossible.

The work that has been done since 1884 in this great section of the city has been a work of development upon lines already established. It cannot be said that operations subsequent to that date have materially changed the character of any of the streets or avenues from that stamped upon them by the building activity which we have considered in the foregoing. There was, indeed, for a time a hesitancy on the part of the wealthier classes to occupy Fifth avenue facing the park, north of 59th street, but within the last six years the step northward has been positively taken, and the erection of such residences as those of W. V. Brokaw, F. C. Martin,

Mrs. Josephine Schmid, E. T. Gerry, C. T. Yerkes, Mrs. N. E. Baylies, Isaac Stern and fashionable clubs like the Metropolitan has determined the character of the avenue and the streets adjacent thereto wherever any doubt existed.

We have now to turn our attention to the other side of the island. While the developments just described were in progress on the East Side the first steps towards opening up the great West Side were making. We have already seen that some time prior to 1879 the better class of capitalists, merchants and others were beginning to regard with great favor the long undeveloped stretch of territory between Central Park and the Hudson River. It was evident to all that due to some cause or other fortune had been particularly unkind to this section, which possessed so many natural advantages to a far higher degree than any other portion of the island. Despite, however, the tardiness of development on the West Side, as soon as public attention was given to the great tide of population that in 1879 began to pour into the East Side, the conclusion was irresistible that before long a part of it at least would be diverted to the western district. It is indeed one of the anomalies of the history of New York real estate that the West Side was so utterly neglected, save by the speculator, for so long. In the earlier years with which our history deals a serious obstacle to the actual occupation of the West Side existed in the then deficient transit facilities, but between 1870 and 1880 that district was quite as well served in that respect as was the opposite side of the city. Moreover, the elevated roads reached 59th street and Ninth avenue at even an earlier date than 59th street at Third avenue, though as an offset to this advantage was the fact that the Third avenue road was extended above 59th street prior to the similar extension of the Ninth avenue road. Undoubtedly this priority counted for a great deal. However, from the very earliest days, the growth of the city along the eastern side of the island has been an easier movement than along the western border. It was so in Colonial and post-revolutionary days. And we have seen that in 1868 much building had already been done along Second and Third avenues and in many of the cross streets, while there was scarcely

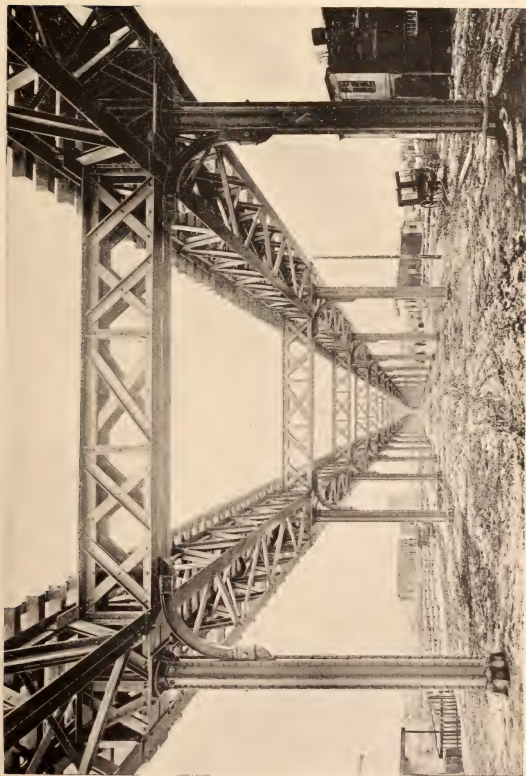
a modern house to be found along the West Side. This, though, was largely due to the earlier development of the horse-car on the East Side than on the West. But, in addition to the horse-car, continuity was undoubtedly a factor of great importance in determining the line of building operations. When Murray Hill, lower Fifth avenue, and the parallel avenues had been built up, it was easier for the house builder to continue his work directly northward above 59th street than to turn off and proceed along the other side of the island, particularly as the buildings on the West Side, immediately south of 59th street, were of a decidedly poor class. The railroad along the Hudson, too, was an obstacle. Moreover—perhaps this circumstance has more weight than any other—from the very beginning the West Side was a victim of its magnificent prospects. It was settled at an early day in people's minds that that district was destined to be the choicest residential section of New York City. It was conformable to this idea that the great public improvements, boulevards, parks and drives were planned for in the Sixties. Now, it is a curious but nevertheless a very apparent fact that "magnificent prospects" have always been a bar to the solid development of real estate. When the future seems to promise so much owners at once attempt to seize upon wealth that exists only in anticipation of actual improvements. Prices are then advanced so greatly that the builder, the investor and even the speculator, the men who are to give reality to the imaginary values, are practically shut out. Then, while owners are waiting to realize their big anticipations, taxes and other charges pile up to such an extent that at last their bridges are burnt behind them; they cannot retreat, but are obliged to hold on to their property for high prices to avoid great loss. In 1879 (as previously in 1868) when real estate began to recover from the effects of the panic, property owners on the West Side hastened to anticipate the coming of the builder. They endeavored to secure for themselves the very profits which the work of the builder was necessary to create. Therefore, when the revival of operations commenced, it found the plane of values on the whole much lower on the East Side than on the West Side, and this, in conjunction with the other facts we

have set forth, directed the tide of operations away from the Hudson. But a year or two of work, aided by speculation, speedily enhanced the value of the East Side realty and by 1880 prices were relatively higher there than on the West Side. Joined to this, the beneficial effect of the elevated roads began to be felt powerfully. By the close of the year 1879 that system of transportation was in operation to 155th street and Eighth avenue, and in the fall of that year people in large numbers commenced to enjoy on Sundays the rural felicities of the West Side much as they do to-day those of the 23d and 24th Wards. The great "West Side movement" may be said to have commenced in that year. At first, and indeed until the boom on the East Side was played out, the new activity was one of anticipation. The West Side was still very backward with its public improvements. The great avenues were in very poor condition, mostly unpaved, merely soft roads, pleasant enough for fast driving in fine weather, but dusty as an Illinois country road, and during rain almost impassable for pedestrians. Riverside Drive had just been delivered in a crude condition from the hands of the contractors and the authorities were beginning to make niggardly expenditures upon Morningside Park. Parts of 59th, 60th, 61st, 62d, 65th, 66th, the whole of 74th, parts of 81st, 88th, 89th, 91st, 97th, 98th, the whole of 102d and 107th, parts of 108th, 109th, the whole of 111th and 112th, parts of 116th, the whole of 117th, 118th, 119th, 120th, 121st, 122d, and parts of 123d, 124th, 125th, and 126th streets—in all there were thirty-four streets between 59th and 134th streets a portion or the whole of which were not yet legally opened. As to the remainder of the streets, few of them were graded, paved or flagged, and the water and gas supply were of course existent only in the rudiments.

Second only to the advent of the elevated roads as a factor in attracting public attention to the West Side were the large improvements in and adjacent to 72d and 73d streets, Eighth and Ninth avenues, made in 1879 by the late Edward Clark, President of the Singer Sewing Machine Co. Two years before, on December 31, 1877, August Belmont and Caroline, his wife, transferred to Mr. Clark for \$280,000 the block front on Eighth avenue, West



Ninth avenue, north from Ninetieth street, in 1879.



Ninth avenue, south from Ninetieth street, in 1879.

Side, extending from 72d to 73d street, 204.4 feet, and extending 375 feet on each street. At the time this large transfer was announced, in 1877, it received some attention, just as the previous purchases in 1875-77 of the same property by Mr. Belmont had received attention. But those years were dull times for real estate, and, as we have said in discussing the period of depression that followed 1873, the multitude took small part in what real estate transactions were then carried through. Mr. Clark's purchase lay fallow for two years. Then came the announcement that he had determined to improve it, not only by the erection of a number of private dwellings of a high class, but it was whispered (then or soon after) by the construction—so the story went—of a large hotel. There were other sagacious operators who undertook to build about the same time. In June, 1879, John D. Crimmins filed plans for flats on Ninth avenue and 63d street, and in the same month H. H. Cammann began the erection of similar buildings on Tenth avenue and 82d street. But neither of these examples were attended by the publicity which was given to Mr. Clark's enterprise. They were not so extensive in the first place, and besides the President of the Singer Company was already well known as a shrewd, bold operator by many large building operations which he had carried through south of 59th street. Early in 1880 Mr. Clark's row of dwellings, from designs by H. J. Hardenberg, was put on the market for rental, and late in that year the plans were filed for the long-heralded apartment house (hotel, it proved not to be)—the Dakota—the cost of which was estimated at \$1,000,000.

There was no doubt then in the people's minds that the day of actual work on the West Side had dawned. A start on so imposing a scale could not but be impressive. It occasioned an immense amount of talk, but, it must be recorded, very little that was more solid than talk, for many months. The fact is, the speculative builder was not ready for the West Side, and without his activity private individuals might undertake a few colossal enterprises, but the actual work of converting acres into improved city lots could not be done. In 1880 the speculative builder was busy on

the East Side, at Yorkville and in Harlem. He was, moreover, building and selling there with a considerable measure of success, and was shrewd enough or dull enough to stick to the field that paid without desiring to experiment on virgin soil. Mr. Clark's enterprise, therefore, bore small fruit at first. In August, 1880, James R. Kingston started some dwellings on 64th street, east of 10th avenue (to stick to the old street nomenclature in vogue at the time), and Daniel Herbert began the erection of residences on 73d street, east of Ninth avenue. Mr. Cammann, too, filed plans for a new lot of tenements on Tenth avenue, north of 82d street. The movement was indeed begun, but it gathered headway slowly. However, though little building was undertaken, there was decided activity in lot transactions. There was a market for West Side property such as has not been seen since 1873 and prices advanced.*

Despite advancing prices and notable building enterprises such as Mr. Clark's, the great speculative era for the West Side did not begin in earnest until 1885. Even up to as late as 1883 a total of less than \$8,000,000 had been invested in improvements. Nevertheless, one by one, builders and others whose names are now

*For instance: 72d street, north side, and 73d street, south side, 475 west 8th avenue, 25x102.2, which sold in 1874 for \$23,000 with mortgage of \$3,000, in 1876 for \$7,000 with \$5,000 mortgage, in 1878 for \$7,000 (same mortgage), sold in 1879 to John D. Crimmins for \$10,000 (same mortgage), and in 1881 to Chas. F. Hoffman for \$23,000 (same mortgage).

72d street, north side, and 73d street, south side, 500 west of 8th avenue, 25x102.2, sold in 1878 for \$11,385, on December 13, 1880, for \$19,500, and in January, 1881, for \$22,000.

Riverside avenue, east side, extending from 79th to 80th street (207.1¼) and extending 69.8½ on 79th street, 35.8¾ on 80th street, was sold January, 1879, to Samuel V. Hoffman for \$12,000; in June, 1879, it was transferred for \$25,000; in November of the same year again for \$25,000; then in quick succession to Wm. H. Scott and Simon Sterne for \$35,000, and to James Scobie (February, 1880), for \$39,500.

In May, 1879, James E. Mallory purchased some property on 9th avenue, west side, 25.10 south 84th street, for \$7,000, which he sold on March 10, 1880, to John B. Conley for \$10,500.

83d street, south side, 225 west 8th avenue, 50x102.2, was acquired by Wm. H. Scott in May, 1879, for \$10,000, sold in 1880 to E. H. Nichols for \$19,250, and in 1882 to William Tilden for \$26,000.

Wm. H. Hewlett in 1877 paid \$2,000 for 10th avenue, east side, 102.2 north of 84th street, 51x100, and sold the same for \$5,000 in April, 1881.

On December 6, 1877, Edward Kilpatrick sold to Wm. H. Scott for \$13,000 85th street, south side, and 84th street, north side, 350 east 9th avenue, 50x102.2, who in 1880 resold to Thos. N. Fowler for \$20,000.

In 1881 Edward Clark paid \$36,650 for four lots on south side 85th street, 100 west 8th avenue, which were purchased by the seller in 1876 for \$17,750.

well known to everybody ventured from time to time upon what was in greater part experimental work. The future of the West Side of course was quite a blank, and in the long stretch of territory from 59th street to the Harlem there were few fixed points to guide the investor in determining the nature of the buildings it would be most profitable to put up. At 59th street the undeveloped West Side came into touch with a rather inferior class of structures, so that one could guess fairly well what was likely to be the line of operations for some few blocks northward. Eighth avenue or Central Park West and Riverside Drive were consecrated in the imagination of property owners to the uses of millionaires, and from the first the price demanded for lots on those thoroughfares was practically prohibitory so far as the speculative builder was concerned. Elsewhere the elevated road stations at 72d, 81st and 93d streets attracted the builder like magnetic points, although the early operators were even there groping in the dark. No one could feel sure as to whether he was working in what would be a tenement district or a region of first, or second, or third-class residences. Indeed, in 1881 plans were filed for tenements to be erected on the north side of 72d street, 100 feet west of Ninth avenue. They were never built, fortunately, but the circumstance shows in what

A lot on 90th street, north side, 400 west 8th avenue, that sold in 1878 for \$3,500 was sold in 1881 for \$4,250.

9th avenue and 90th street, northeast corner, 100.8½x100, was bought by John H. Tingle February, 1880, for \$11,200, and sold a year later to David B. Alger for \$14,000.

Certain property on the Boulevard, east side, south of 95th street, which sold in 1878 for \$3,700, was purchased by Alonzo R. Hamilton in 1880 for \$8,000.

101st street, north side, 171.4 west 9th avenue, 19x100.11 (with building), sold in 1878 for \$2,350, and in May, 1880, for \$3,500.

9th avenue, east side, 25.3 north 105th street, 25.8x100, was acquired by the Mutual Life Insurance Co. in 1878 for \$1,000. The Company sold it in 1880 for \$3,000, and in 1881 it was resold to Patrick Connelly for \$1, subject to a mortgage of \$5,500.

100th street, north side, 175 east 9th avenue, 25x100.11, and 101st street, south side, 150 east 9th avenue, 50x100.11, was purchased by Simon Sterne January 16, 1880, for \$7,500 (mortgage \$1,781), who on March 23d of the same year resold to Benjamin F. Romaine for \$9,600 (same mortgage).

109th street, north side, 250 east 10th avenue, 50x half block, and 110th street, south side, 250 east 10th avenue, 50x half block, was sold in 1879 for \$8,175 by Max Oppenheimer, and in 1880 was resold by the purchaser, Samuel A. Lewis, for \$15,500.

The foregoing instances, taken quite at random from the records of the period, are sufficient to indicate the general advance in prices of West Side property that was in progress in 1879-80—an upward movement, by the way, which continued with marked results for ten years. It must not be for-

great obscurity as to the future the builder was naturally enveloped. The Clark houses constituted another fixed point, and up in West Harlem something had already been done in spots to determine local character. The rest was a wilderness of confusing possibilities, and it is curious to notice how far many of the early anticipations were from the reality. Riverside Drive and Central Park West would, it was thought, be seized upon first of all the avenues on the West Side by the wealthy as the sites of mansions that would splendidly eclipse anything and everything on Fifth avenue. Tenth or Amsterdam avenue was preferred to Ninth or Columbus avenue. The Boulevard was to be the seat of lordly pleasure houses, and Eleventh, or West End avenue, to which small thought was given, was consigned by many to be the location of household stores. The future of property on Morningside Hill was regarded as very promising. Much of its was owned by the Leake and Watts Asylum and by the Society of the New York Hospital. The former owned three blocks between Morningside avenue, Tenth avenue, 110th and 113th streets. The Hospital Society owned the entire tract with the exception of a few lots between 112th, 120th streets, Tenth avenue and the Broadway Boulevard, together with a large piece west of the Boulevard, north of 116th street, leaving only a

gotten, however, that the prices we have given for 1879-80 were still far below those that ruled in 1871-1872, as the following table shows:

	Prices. 1871-1872.	Prices. 1880.
N w cor 8th av and 62d st, four lots.....	\$130,000	....
N w cor 8th av and 63d st, three lots.....	....	\$65,000
S w cor 8th av and 64th st, four lots.....	115,000	....
S w cor 8th av and 65th st, and one st lot, five lots...	120,000	....
W s 8th av, bet 65th and 66th sts, three lots.....	....	45,000
W s 8th av, bet 67th and 68th sts, two lots.....	50,000	....
8th av, 25 n 63d st, one lot.....	25,000	....
Front, 64th to 65th st, and two lots on 65th st, ten lots..	255,000	....
S s 68th st, 325 w 8th av, three lots.....	....	*15,000
S s 68th st, 325 w 8th av, three lots.....	....	†17,000
S s 68th st, bet 8th and 9th avs, six lots.....	....	42,000
N s 69th st, beginning 100 e 9th av, fourteen lots.....	....	91,000
S w cor 8th av and 70th st, and two street lots, six lots..	130,000	....
S w cor 8th av and 76th st, three lots.....	83,000	30,000
Av lots, bet 76th and 77th sts, two lots.....	55,000	....
Av lots, bet 81st and 82d sts, two lots.....	....	27,000
N w cor 8th av and 88th st, two lots.....	47,000	28,000
N w cor 8th av and 81st st, two lots.....	....	25,000
N w cor 8th av and 82d st, one avenue and two street lots, three lots .....	....	25,000
N w cor 8th av and 85th st, four avenue lots, four street lots, one gore, eight lots.....	....	95,000

comparatively small number of lots for private owners. For the strip on Morningside avenue, from 113th street to 122d street, averaging about 500 feet in width and on the front along the avenue, exclusive of the Leake and Watts asylum, there were only about ten owners in all. They were: Emanuel Garcia, Frederick de Peyster, General Jas. Watts de Peyster, James J. Goodwin, Joseph W. Drexel, Dwight H. Olmstead, The Central National Bank, Tracy, Olmstead & Treacy, Mary G. Pinckney and James Rufus Smith. Among the large owners of inside or street lots were Butler H. Bixby, Roscoe Conkling and Dr. B. W. McCready.

John Jacob Astor expressed it as his opinion in 1879 that building would start from 72d street and move from that point southward and crowd out the shanties; whereas others suggested that the city was destined to grow up the Fifth avenue side of the town and then swing across 110th street to Morningside Hill. Neither view, as we know, was entirely correct. Seventy-second street was the starting point of one set of operations, which moved in all directions from that centre, but chiefly northward. Similar centres were also established at the elevated stations at 81st and 93d and 104th streets—points, by the way, which mark the several high elevations of land on the West Side. As to the “swing-across-town” theory, it was correct in principle, but the cross movement was not made at 110th street but at 125th street. It is needless to point out the determining influence in all this exerted by the elevated roads. To sum up: The earliest development of the West Side tended northward from 72d street, and north and south of 125th street, the greatest activity at first being in the upper locality.

It was perhaps as early as 1880 that what may be termed the overflow from the East Side began to trickle into the northern part of the West Side. Rents in Harlem proper in that year were advancing rapidly and the beneficial influence of the Third avenue elevated road was stimulating building at the northern end of the island, along 125th street and other adjacent cross streets. A demand for upper West Side lots arose and prices began to move upward. In 1879 August Belmont sold the block, St. Nicholas and Seventh avenue, 112th and 113th streets, for \$150,000. The plot

100x100.11 on 125th street, south side, 150 feet west of Eighth avenue, including 100x100.11 on 124th street, north side, 150 feet west of Eighth avenue, which sold for \$10,000 in 1878, brought \$21,000 the next year, while the plot 100.11x125 on 125th street, southwest corner of Tenth avenue, sold at \$6,500 in 1879, \$11,000 in 1880 and \$16,000 in 1882. Considerable purchases on and around 125th street toward the west side of the island were made in 1879 by William Jennings Demorest, Simon Sterne, Edward J. McGean, John D. Phillips, John H. Deane, David J. Seligman, Theodore W. Myers, Samuel L. Parish, Edward A. Jackson, John B. Hillyer, Edward J. King, John M. Pinkney, Richard H. L. Townsend, Frank Tilford, Wm. H. Scott, Wm. R. Martin, John H. Hankinson, Smith Ely, Jr., Wm. D. Whiting.

In 1881 the builder was quite active in the upper West Side. Among the early pioneers were A. A. Teetz, S. O. Wright, R. M. Strebeigh, Kehoe, Hubner, Broas, Moore, Codling & Son, Brown-ing, E. S. Higgins, I. E. Wright, J. Van Dolsen, Cunningham, Thurston, T. Wilson, J. W. Stevens, Lynch, Harlow, Mulrein, Hutchinson. The field of operations was chiefly between Seventh and Eighth avenue, 126th and 133d streets. Eighteen hundred and eighty-one was an active year in real estate in all parts of the city. Prices were advancing. Indeed, since 1877 there had been a steady increase in the number of transactions as well as in the amount of money invested. General business was good. The prices of labor and material were advancing and there was a good demand for both. The East Side reaped the larger part of this harvest, but 125th street was a fertile tract, along which some of the seed was scattered into the West Side. The lower part of the West Side received less benefit. The Clark operations, at 72d and 73d streets, were still the chief ones, but in 1881 George J. Hamilton began to build on 73d street, near the Clark houses, and at the close of the year there were eighteen rows of buildings in course of erection in the district south of 125th street. Plans were filed for 139 buildings calling for an expenditure of \$2,035,400.

The building done in 1882 did not vary much, either in extent or character, from that accomplished in 1881. At the same time the

activity was somewhat more marked, and many builders hitherto at work in other parts of the city began operations on the West Side. Thus John W. Stevens built a small row of dwellings in 87th street; John G. Prague filed plans for some tenements in 61st street and Ninth avenue; Francis Crawford started in with some dwellings on 71st street, and Michael Brennan built a small experimental row on 69th street. George W. Hamilton, also, was encouraged by his father's operations on 73d to follow Mr. Crawford's example on 71st street. In April of that year David Christie commenced work on Tenth avenue and 96th street, and James O'Friel on Ninth avenue and 78th street. John Maloy thought money was to be made by building on Ninth avenue and 61st street, while Edward Morrison was imbued with the same idea regarding a location two miles further north on 100th street, west of Ninth avenue. Furthermore, those who had come to the district previously were there to stay. John D. Crimmins and Edward Clark commenced the erection of new rows, the former at 92d street and Ninth avenue, the latter still on 73d street. Geo. Hamilton returned to 73d street later in the year, this time west of Ninth avenue. While these enterprises were fairly well distributed the centre of activity was in the immediate vicinity of 72d street, although on that street itself nothing had been done as yet. Altogether there were plans filed for 177 buildings in the district, their estimated cost amounting to \$3,159,100, against 954 buildings costing \$14,990,375, for the section east of Central Park.

Respectable colonies had been formed in the neighborhood of the 72d, 81st, 93d, 104th and 125th street elevated railroad stations, representing an investment of between seven and eight millions of capital. No plans had been filed for buildings on West End avenue, and Tenth avenue was apparently more popular than Ninth avenue, which was only in the process of being paved. Some one suggested, under the illusion that the latter avenue was to be covered with dwellings, that it would be a good idea to situate the houses as far back from the building line as would be consistent with the depth of the lot, and plant a row of trees in front to prevent the occupants from being annoyed by intrusive cinders from

the elevated engines. This ingenious method of defense did not, however, commend itself to builders. The year 1883 saw a continuance of the progress made the year before, without, however, any notable acceleration of pace. Fred. Kruse began building on Tenth avenue, Samuel Colcord on 79th street, Casper M. Lawson on 100th street, Christian Kruse on 83d street, A. Alonzo Teets on 122d street, John Richards and James Phelps on 61st street, George Huhn on 67th street, Benj. Wallace on 100th street, S. H. Mapes on 10th avenue, R. Townsend on 100th street, Hugh Blesson on 76th street, and Richard Deeves on 83d street. Other names which may be mentioned are: E. M. Wadsworth, J. W. Guntzer and Richard Chaffy. At the same time many builders who had entered the district in previous years continued their operations with unabated confidence and apparently with unvarying success. Throughout the year plans were filed for 183 buildings, to cost \$3,398,075. Building on the East Side, however, still continued to be far more important in respect to the extent of operations than that on the West Side.

Several large auction sales, joined to the greater facilities for access furnished by the elevated roads, served to advertise the West Side immensely. At the Carman sale, on March 25, 1880, 257 lots, between 148th street and Highbridge Park, were disposed of for \$181,609. As the buyers refused to take title, owing to legal difficulties, a resale of the property was held in April, 1881. The first of the two famous Jumel sales was held May, 1882, and the second in November, 1,058 lots north of 159th street being knocked down for a total of \$544,830. Another important sale was that by the Mutual Life Insurance Company of improved property and 227 vacant lots, mostly on the West Side, in 70th, 80th and 90th streets, and northward to 158th street.* The dispersion of property formerly held by a few individuals into the possession of many was an advantageous circumstance, and one that favored the promotion of building operations. But the ball moved slowly. As we have said, the speculative builder was not

*For particulars of these and other noted auction sales, see Appendix.

ready for the West Side, and the work of opening up the new territory for the habitation of the multitude could not be accomplished without him. Eighteen hundred and eighty-three was not a very good year for general business, and real estate slightly felt the mild depression. A considerable amount of buying and building was done in the upper part of the West Side, and in the lower part new accessions from the ranks of the solidier builders on the East Side were made. George W. Hamilton, who contributed so much to the early development of the West Side, was busy in the vicinity of 72d street and 9th avenue; Samuel Colcord filed plans for houses on 79th street. The building up of 72d street was commenced in earnest. Cornelius W. Luyster, in connection with James R. Smith, had plans prepared by D. & J. Jardine for ten four-story brownstone dwellings, to be erected on the north side of 72d street, 100 feet east of 10th avenue; on the south side of the same street, 300 feet west of 9th avenue, Francis Crawford prepared to build by acquiring four lots with building loan at a cost of \$58,000. B. C. Wetmore filed plans for another lot of dwellings on 72d street, between 9th and 10th avenues. Edward Hatch announced that he would erect eight tenements on the north side of 61st street, between 10th and 11th avenues; E. Purcell had similar plans, but for only four buildings, on the south side of 60th street, 200 feet west of 10th avenue. Michael Brennan was associated with Mr. Purcell. In the same year John M. Ruck filed plans for a flat to be built on 9th avenue, at the northwest corner of 71st street. I. M. Grenell undertook three dwellings on the north side of 87th street, west of 9th avenue; Christian Blinn filed plans for six dwellings on 78th street, west of 9th avenue. S. H. Mapes determined to build tenements on the west side of 10th avenue, 125 feet north of 74th street. Terence Farley purchased five lots on the southwest corner of 9th avenue and 73d street and other adjacent property, and Richard Deeves had plans made for dwellings on the north side of 82d street, 175 feet east of 9th avenue.

Most of the foregoing names the reader will recognize as those of operators who have played very important parts in the develop-

ment of the West Side. The greater part of the new work was in the neighborhood of 72d street and along or between 9th and 10th avenues, and small in amount as the new work was in these early years it was of unusual importance because these initial operations did so much to determine the character of the cross streets and longitudinal avenues. Eighteen hundred and eighty-two and 1883 were the years when the outposts of the coming army of builders were established and it is noteworthy that so many of these first operators should be the very men who subsequently were the most active in developing the West Side. Over one hundred buildings were projected or commenced in 1883. Of apartment houses thirteen were under way in May, costing \$209,000. North of 69th street and south of 110th there were seventy-seven dwellings under way, costing \$1,192,500.

As to the upper West Side, the distribution of the Carman and Jumel estates had an excellent effect. The northwest side of the island seemed the most unpromising of any section south of the Harlem River. It was the most remote from the business quarter, and not accessible by the ordinary routes of travel. But the dis-

The following table shows the buildings projected on the West Side in the spring of 1883:

Boulevard, w s, 60 n 60th st, 4-sty and basement brk and brownstone apartment house, J. H. Gautier, cost, \$40,000; Boulevard, e s, 79.4 n 74th st, 3-sty brk club-house and store, John D. Crimmins, \$8,000; Boulevard, n e cor 83d st, two 5-sty brk and stone stores and tenem'ts, Christian Cruse, total cost, \$30,000; 59th st, Nos. 303, 305 and 307 W., 4-sty brk stable, owner, O. L. Jones; 60th st, No. 215 W., 5-sty brownstone dwell'g, Thos. Cowman, \$15,000; 60th st, No. 217 W., 5-sty brk apartment house, Julia Mullaly, \$20,000; 60th st, s s, 200 w 10th av, 5-sty brownstone tenem't, Edward Purcell; 60th st, s s, 219 w 10th av, three 5-sty brownstone tenements, same as last; 60th st, Nos. 285 and 287, w 11th av, two 4-sty brk and brownstone stores and tenem'ts, Mrs. M. J. Largau, each \$9,000; 61st st, n s, 200 e 10th av, 5-sty brownstone tenem't, \$24,000; 61st st, s s, 100 w 10th av, 5-sty brk tenem't, Claus Ahrenz, \$12,000; 61st st, s s, 125 w 10th av, five 5-sty brownstone tenem'ts, John Richards, each \$23,000; 61st st, s s, 350 w 10th av, two 5-sty brownstone tenem'ts, James Phelps, each \$18,000; 61st st, No. 532 W., 5-sty brk tenem'ts, Patrick O'Reilley, \$14,000; 62d st, s s, 75 w Boulevard, 2-sty brk office stalls and dwell'g, Jacob Stockinger, \$1,500; 67th st, No. 120 W., 1-sty brk stable, Wm. Skelly, \$1,500; 67th st, 150 w 10th av, two 5-sty brownstone tenem'ts, P. Netter, each \$16,000; 67th st, n s, w 11th av, eight 4-sty brk tenem'ts, George Kuhn, each \$10,000; 69th st, s s, 100 w 11th av, and 69th st, n s, 200 w 10th av, twelve 5-sty brk tenem'ts, E. A. Davis, each \$18,000; 11th av, n w cor 68th st, one 1-sty brk store and dwell'g, Michael Flick, \$1,500; 69th st, n s, 125 w 10th av, 2-sty brk dwell'g, Harriet I. Potter, \$6,000; 71st st, s s, 80 w 9th av, five 4-sty brownstone dwell'gs, George W. Hamilton, total cost \$100,000; 72d st, s s, 100 e 10th av, five 4-sty brownstone dwell'gs, Geo. J. Hamilton, total cost \$130,000; 72d st, n s, 300 e 10th av, three 4-sty brownstone dwell'gs, Margaret Crawford, each \$20,000; 72d st, s s, 400 e 10th av, five 4-sty

tribution of the Carman and Jumel estates had a very wholesome effect. The purchasers who were attracted by the low price of the lots were not willing to pay taxes and assessments for ten or fifteen years without some return from the property, and hence commenced to build. A sale of lots in the spring of 1883 above 140th street and 8th avenue told the story of the increased favor in which this part of the city was held. There was a surprisingly large advance in the price of lots as compared with the sales made when the Carman and Jumel estates were auctioned off. During the first half of 1883 102 buildings, aggregating \$386,650, were projected west of 8th avenue and north of 140th street. The proposed improvement of the Harlem River doubtless encouraged building in this district, but the unexpectedly large number of plans filed during the six months in question was primarily due to the fear entertained by property-holders that the Legislature, then in session, would extend the fire limits over the whole of the island. Accordingly, with few exceptions, the plans filed were for frame buildings, many of which were projected merely for the purpose of temporarily paying taxes, assessments and interest.

brownstone dwell'gs, Margaret Crawford, each \$25,000; 72d st, n s, 100 e 10th av, ten 4-sty brownstone dwell'gs, James R. Smith and C. W. Luyster, average, each \$25,000; 73d st, s s, 275 w 9th av, 3-sty and basement brk and brownstone dwell'g, Roberta W. Marsh; 73d st, s s, 300 w 9th av, three 4-sty brownstone dwell'gs, Anna McDonald, average, each \$18,000; 73d st, n e cor 10th av, one 4-sty brk flat, Jonathan Allen and ano., \$22,000; 73d st, n s, 28 e 10th av, four 4-sty brk and brownstone dwell'gs, J. Allen and ano., each \$15,000; 78th st, n s, 150 w 9th av, six 3-sty stone front dwell'gs, Christian Blinn, each \$8,000 or \$9,000; 78th st, n s, 30 w Broadway, three 1-sty brk and glass greenhouses, David Clark, total cost \$1,200; 79th st, s s, 350 w 9th av, five 3 and 4-sty brownstone dwell'gs, Samuel Colcord, about, each \$10,000; 82d st, n s, 225 e 9th av, six 4-sty brk dwellings, Mrs. Mary M. Williams, each \$11,250; 83d st, s s, 225 e 9th av, six 4-sty brk tenem'ts, same as last, each \$11,250; 85th st, s s, 300 e 10th av, 2-sty and cellar brk dwell'g, John Campbell, \$2,500; 86th st, n s, 90 w 10th av, 2-sty brk and stone chapel, Eighty-fourth Street Presbyterian Church, \$20,000; 87th st, n s, 175 w 9th av, three 3-sty brownstone dwell'gs, I. M. Grenell, each \$9,000; 100th st, n s, 300 w 9th av, four 5-sty brownstone apartment houses, Casper N. Lawson, each \$9,000; 104th st, s s, 250 w 9th av, 2-sty brk dwell'g, Mrs. C. A. Brown, \$5,500; 106th st, s s, 100 e 9th av, two 4-sty brk and brownstone apartment houses, Mrs. M. C. Jackman, each \$15,000; 107th st, s s, 175 w 9th av, 2-sty brk shop, Julius Bush, \$1,500; 8th av, n w cor 86th st, frame grand stand, Manhattan Athletic Club, \$3,000; 9th av, n w cor 71st st, 4-sty brownstone store and flat, John M. Ruck, \$20,000; 9th av, w s, 69.2 n 71st st, two 4-sty brownstone dwell'gs, same as last, each \$10,000; 71st st, n s, 20 w 9th av, five 3-sty brownstone dwell'gs, same as last, each \$12,000; 9th av, e s, 25.2 n 100th st, 1-sty dwell'g, Anna Harms, \$2,000; 9th av, n w cor 100th st, four 5-sty brk and stone-trimmed tenem'ts, Benjamin Wallace, each \$9,000; 10th av, w s, 75 n 74th st, 5-sty brownstone nat, S. H. Mapes, \$23,000.

During the year 1883 plans were filed for 183 buildings, to cost \$3,398,075, between 59th and 125th streets, west of 8th avenue. In the same period 849 buildings, to cost \$13,754,047, were filed for the East Side—a comparison which shows more clearly than any description where the real seat of operations was at that time. In the following year, 1884, however, the West Side movement began to assume large proportions. The activity on the East Side was declining. Land there had become relatively dear and speculation was beginning to reach the end of its resources. As we have seen, the failure of Deane, Hawkes et al., was not far off. In 1884 335 buildings, to cost \$6,675,490, were planned for on the West Side. People began to make the discovery that class for class houses were cheaper on the West Side than on the East Side, and this assisted in sending buyers into the new territory which the builder was beginning to invade. In this year John D. Crimmins had plans made for houses on 68th street, between 9th and 10th avenues; so did Edward J. King, on 71st street; Ralph F. Townsend, on West End avenue, west side, south of 102d street; David H. Knapp, 10th avenue, southeast corner 105th street; William Noble, 83d street, south side, east of 9th avenue, and Daniel Herbert, 81st street, north side, 200 feet east of 10th avenue; Henry Bornkamp, 9th avenue, east and west sides, between 95th and 96th streets. Joseph F. Navarro, who, despite his large operations on 59th street, and on the East Side, had made considerable investments in recent years in West Side property, filed plans for (but did not erect) four twelve-story flats on 8th avenue, west side, between 81st and 82d streets, the site upon which the Hotel Beresford now stands. Geo. C. Edgar undertook to build on the north side of 70th street, 100 feet west of 9th avenue; Samuel Colcord on the north side of 79th street, west of 9th avenue; Charles L. Guillaume on the north side of 87th street, 325 feet west of 9th avenue.

The building movement continued to be especially marked in the neighborhood of the elevated road stations. It was encroaching upon the vacant ground up to 74th street, and a good part of the ground around 81st street; 71st to 73d street was largely built

over, and this was also the case with 82d and 83d streets. On the latter twenty-one private residences were to be erected, or in process of erection. Seven of these were built by William Noble, three by D. & J. Jardine, the architects, and two by Thomas Cochrane. The first stories of Architect George W. Da Cunha's three houses were making their appearance above ground while the six residences erected by Richard Deeves were rapidly approaching completion. The same owner was building three similar houses on 82d street. Further west, between 9th and 10th avenues, and on the same streets, the vacant ground for building purposes was decreasing month by month. Going north, the building activity was running beyond the 104th street "L" station. A number of houses were going up on 9th avenue, 96th, 97th and 98th streets, near 9th avenue, and it was declared that in a few years lots in this direction would become as valuable as in the neighborhood of the 72d and 81st street elevated road stations.

In the beginning of the year 1885 the prospect ahead for real estate was not the brightest. There had been trouble in Wall street during the previous year, there were bad times in Europe, and the unusually hot political contest between Blaine and Cleveland had, or was supposed to have had, an unsettling effect upon the country. Builders, moreover, had been hampered by a number of petty strikes with their employees. The failures on the East Side and the practical failures of many big apartment houses to return sufficient interest on the money invested had contributed to create something of an adverse opinion as to the profitableness of real estate. However, before 1885 closed these clouds had quite blown over, and in the new revival the West Side emerged as the recognized speculative area of the city. The operators already at work in that district undertook new and larger enterprises and they were joined by nearly all the larger builders in the city. J. G. Prague filed plans for dwellings on 73d street; Lamb & Rich for twelve dwellings on the southwest corner of 75th street and West End avenue; Gillie, Walker & Lawson for tenements on 62d street, west of 9th avenue; E. S. Auchmuty for one apartment house on the southwest corner of 9th avenue and

93d street; Samuel Colcord for residences on the north side of 81st street, between 9th and 10th avenues; Robert Auld for residences on 94th street, west of 8th avenue; George W. Rogers for ten three-story dwellings on the northwest corner of the Boulevard and 84th street. George R. Reade sold for S. T. Meyer & Son twelve lots on New avenue, extending from 104th to 105th streets, for \$55,000, to the Protestant Half-Orphan Asylum, and at the Drake estate sale, held in April of this year, four lots on the southwest corner of 86th street and 11th avenue were sold to Francis M. Jencks for \$14,650, and four lots on 87th street and 11th avenue were secured at private sale by Jacob Lawson and C. S. Wescott for \$10,000. Chas. Batchelor filed plans for five dwellings on the north side of 72d street, 175 feet west of 9th avenue; Edgar & Sons, for four dwellings on 70th street, west of 9th avenue; Wm. Noble for residences on the north side of 76th street, west of 9th avenue; M. Brennan for residences on the north side of 76th street, west of 9th avenue, and Henry Maibrunn for a residence on 78th street, west of 9th avenue, from plans by Alfred Zucker & Co., architects.

By this time the attention of the city was directed to the phenomenal progress which had been made by the West Side during the

This list contains all the building plans filed from the 1st of December, 1884, to May, 1885, in the district west of 8th avenue, and extending from 65th to 135th street. The total number of houses to be erected according to the plans amounted to 157, the estimated cost of which is \$2,314,500. It is safe to say that \$2,000,000 would not cover the cost of the buildings, the foundations of which were laid within the specified five months:

65th st, n s, w 8th av, five flats, James Philip, cost each \$30,000; 65th st, s s, w 10th av, one tenement, Henry Meyer, \$10,000; 66th st, n s, w 8th av, two tenements, John M. Ruck, each \$17,500; 67th st, s s, w 8th av, three tenements, John M. Ruck, each \$17,500; 70th st, s s, e 11th av, three dwellings, Tracy & Van Loon, each \$12,000; 71st st, n s, w 8th av, seven dwellings, Owen Donohue, each \$12,000; 71st st, n s, w 8th av, three dwellings, Thompson & Mickens, each \$10,000; 71st st, n s, w Grand Boulevard, seven dwellings, Elizabeth Steinmetz, each \$12,000; 72d st, n s, w 9th av, five dwellings, Chas. Batchelor, each \$22,000; 75th st, n s, w Boulevard, five dwellings, Daniel D. Brandt, each \$11,000; 76th st, n s, w 9th av, seven dwellings, Margaret A. Brennan, each \$18,000; 76th st, n s, w 9th av, four dwellings, Wm. Noble, each \$20,000; 76th st, n s, w 9th av, six dwellings, John T. and James A. Farley, each \$20,000; 76th st, n s, w 9th av, twelve dwellings, John S. Kelso, Jr., total \$210,000; 78th st, s s, w 9th av, one dwelling, Henry Maibrunn, \$20,000; 81st st, n s, e 9th av, one dwelling, Christian Blinn, \$40,000; 84th st, n w cor Boulevard, ten dwellings, George W. Rogers; 87th st, n s, w 9th av, three dwellings, I. M. Grenell, each \$9,500; 88th st, n e cor Western Boulevard, one store, Wm. McCormack; 95th st, s s, w 9th av, two dwellings, Edwin and Chas. Fraser, each \$6,000; 101st st, n s, w 11th av, one dwelling, Robt. T. Bellchambers, \$12,000; 104th st, s s, e Boulevard,

past two years. As we have shown, the whole building force of the city seemed to have been transferred from the East to the West Side. In 1885 plans were filed for 689 buildings to be erected at a cost of \$10,686,284—very nearly double the number of the year before and equal to the number filed during the same year on the East Side. In 1886 money was easy, the general state of the country was prosperous, and in short, conditions of every nature favored extensive operations. The buildings already erected on the West Side had sold readily, so that builders were inclined and were financially able to undertake new responsibilities. Early in this year D. Willis James, with Messrs. Prague and Power, began his extensive operations on 86th street, which has resulted in the erection of nearly 300 houses. The only other operators whose enterprises can be compared in magnitude to these are those of the Clarks, and those of W. E. D. Stokes and his affiliations on West End avenue and elsewhere. Mr. Charles Buek, another operator who has made very large investments of the highest character on the West Side, also began to build in that district in 1886, having previously confined his attention to the fashionable region in the lower East Side, wherein he continued the work of Duggin & Crossman.

seven dwellings, Martha A. Lawson, each \$12,500; 105th st, s s, e Grand Boulevard, four dwellings, John F. Moore, each \$12,000; 9th av, s w cor 93d st, one apartment house, Mrs. E. S. Auchmuty, about \$150,000; 9th av, n w cor 94th st, and s w cor 95th st, two tenements and stores, John M. Pinkney, each \$14,000; 9th av, w s, n 94th st, eight tenem'ts and stores, John M. Pinkney, each \$13,000; 10th av, e s, 92d to 93d st, one brick building (Home for the Aged), Methodist Episcopal Church Home, \$125,000; 10th av, n w cor 104th st, three tenements, Franklin Thurston, one \$25,000, two, each \$18,000, \$61,000; 11th av, s e cor 75th st, six dwellings, Lamb & Rich; 123d st, s s, 8th to St. Nicholas av, six dwellings, H. Josephine Wilson, each \$9,000; Same, two dwellings, same, each \$14,000; 125th st, s e cor St. Nicholas av, five stores and tenements, James Cassidy; 126th st, n s, e St. Nicholas av, eight dwellings, The Nassau Building Co., each \$12,000; 131st st, n s, w 10th av, one hospital, Manhattan Dispensary, \$14,000; 8th av, w s, s 116th st, two flats and stores, James Connor, each \$22,000; 8th av, s w cor 116th st, two flats and stores, James Connor, each \$17,000; 8th av, w s, s 123d st, runs to St. Nicholas av, one store and dwelling, John M. Pinkney, \$10,000; 8th av, n e cor 126th st, one tenement and store, Marie T. McCormick, \$25,000; 8th av, s w cor 133d st, one tenement and store, Peter McCormack, \$18,000; 8th av, w s, s 133d st, two tenements and stores, Peter McCormack, each \$18,000; 8th av, w s, s 133d st, one tenement and store, Peter McCormack, \$18,000; 8th av, n w cor 134th st, four stores and tenements, L. Weiher, each \$10,000.

In this year, 1886, the number of plans filed was 948 and the estimated cost of buildings \$15,169,000. In 1887 the amount invested had increased to \$16,607,975, but the number of projected buildings slightly decreased, to 824. This year witnessed the culmination of the first great activity on the West Side. Building had been slightly overdone. There were, as a consequence, a few financial disasters and many builders found themselves obliged to carry over their investments into another year. This state of affairs checked building so that in 1888 there were only 522 buildings planned for at a cost of but \$10,383,500. By this latter year, needless to say, the West Side as we know it to-day was clearly defined. Riverside avenue and Central Park West were still neglected, but the character of all the other avenues was settled. As to the centre of activity it had shifted northward to 81st street, but below 72d street, a great deal of work was in progress. When "The Record and Guide" made its first canvass of the West Side, in the fall of 1888, it was found that between April, 1886, and April, 1888, plans had been filed for 1,049 dwellings and 522 flats and tenements, with the following result:

As to the value of West Side lots prices naturally were steadily advancing, as the following typical transactions show:

	Jan., 1877.	Oct., 1885.	Sept., 1886.
9th av, s e cor 124th st, 7 lots.....	\$10,000	\$29,500	\$41,000
	Dec., 1885.	Sept., 1886.	
9th av, n e cor 70th st, 2 lots.....	\$20,000	\$28,000	....
	Dec., 1885.	Mar., 1886.	Oct., 1886.
9th av, s e cor 90th st, 4 lots.....	\$31,900	\$40,000	\$44,000
			*\$50,500
	Dec., 1885.	Dec., 1886.	Mar., 1886.
9th av, w s, bet 98th and 99th sts, 8 lots..	\$45,000	\$56,000	*\$72,000
	Jan., 1886.	Mar., 1886.	Oct., 1886.
8th av, w s, 119th to 120th st, 8 lots....	\$45,000	\$65,000	\$75,000
	Nov., 1876.	Jan., 1886.	
72d st, s s, 175 w 8th av, 4 lots.....	\$34,500	*\$85,000	....
	Oct., 1879.	Nov., 1879.	May, 1885.
72d st, s s, 525 w 8th av, 4 lots.....	\$39,000	\$40,000	*\$72,000

*Sold to a builder.

	From 59-72.	From 72-81.	From 81-93.	From 93-104.	From 104-116.	From 116-125.	Total
Four-story dwellings:							
No. filed	127	214	273	92	4	1	711
Unfinished, &c.	18	78	64	20	0	0	180
Rented, &c.	3	23	20	2	1	1	50
Sold	26	56	75	39	0	0	196
Unmarketed	80	57	114	31	3	0	285
Three-story dwellings:							
No. filed	10	39	59	121	76	33	338
Unfinished, &c.	0	3	15	17	45	12	92
Rented, &c.	4	9	0	5	10	0	28
Sold	0	21	10	61	13	10	115
Unmarketed ..	6	6	34	38	8	11	103
Flats:							
No. filed.....	34	20	27	50	23	8	162
Unfinished, &c.	0	2	3	7	4	0	16
Rented, &c.	7	2	0	2	1	0	12
Sold	20	2	8	23	10	8	71
Unmarketed	7	14	16	18	8	0	63
Tenements:							
No. filed	103	17	62	124	38	16	360
Unfinished, &c.	29	2	26	24	1	0	82
Rented, &c.	4	0	1	4	12	1	22
Sold	47	3	12	25	7	10	104
Unmarketed	22	12	23	71	18	5	152

In 1889 plans were filed at the Building Department for 839 buildings, estimated to cost \$21,574,200, and with this record we reach the banner year on the West Side. The activity of that twelve months has never been exceeded, as the adjoined table shows:

BUILDINGS PLANNED BETWEEN 59TH AND 125TH STREETS, WEST
OF 8TH AVENUE.

	No.	Estimated Cost.
1885.....	612	\$9,480,284
1886.....	932	14,904,000
1887.....	824	16,607,975
1888.....	522	10,383,500
1889.....	839	21,574,200
1890.....	804	17,872,350
1891.....	639	14,531,470
1892.....	645	15,151,925
1893.....	443	17,101,450
1894.....	476	10,440,775
1895.....	699	20,860,820
1896.....	358	11,563,775
1897.....	445	13,471,350

By the year 1890 the permanent character of the several localities on the West Side, between 59th and 125th streets, may be said to have been determined by the improvements described in the foregoing. The one important exception was Morningside Heights, the more recent development of which demands attention.

The improvement of real estate on Morningside plateau effected

during the past five years is one of the notable achievements in the history of the West Side. Five years ago the region bounded by 110th and 122d streets, Morningside avenue and Riverside Drive was practically empty of houses, and the character which coming improvements would assume was a matter of uncertainty. To-day the presence of Columbia University, the Teachers' and Barnard Colleges, and some thirty high-class dwellings determine the architectural and social complexion of the district.

The first impetus to improvement of real estate on the plateau was given by the sale of part of the grounds of Bloomingdale Asylum, in 1889. This institution was owned by the Society of the New York Hospital, which possessed the fee of between forty and fifty acres of land on the fairest portion of the heights. When the society determined to remove the asylum to White Plains an auction sale was held of ninety-eight lots on Amsterdam avenue (then called 10th avenue), the Boulevard, and 112th, 113th and 114th streets. The sale, which took place on April 4, 1889, was conducted by Adrian H. Muller & Son, and the prices obtained were considered satisfactory. Lots on the Boulevard brought from \$6,350 to \$9,600 each; on Amsterdam avenue, from \$5,800 to \$8,600. The 113th street lots realized from \$4,450 to \$5,000; the lots on 114th street brought from \$4,350 to \$4,575; and the 112th street lots fetched from \$3,335 to \$4,275. All lots were sold subject to restriction, dwellings only being permitted on the streets, and flats and stores on the avenues. The sum of \$500,400 was realized on the eighty-nine lots—an average of \$5,106 per lot. The quickening effect of the distribution of this land among private owners is indicated by the increasing number of conveyances subsequently recorded, although purchases appear to have been made for some years with a view to investment rather than immediate improvement.

The next important sale occurred in October, 1891, when the trustees of the Leake and Watts Orphan House disposed of the three blocks bounded by 110th and 113th streets, Morningside and Amsterdam avenues, to the Cathedral of St. John the Divine, for \$850,000. The parcel comprised 200 lots, giving an average

price of \$4,250 per lot. This very low price is explained by the presence of considerable masses of rock on the site and by the circumstance that the trustees of the Leake and Watts Orphan House were affiliated with the Episcopal Church, and that, when the resolve was made to remove the asylum to Ludlow, it was thought that the founders' intention in regard to the land would be best respected by insuring its dedication to the use of religion. The filing of plans for a cathedral building in the following year, looking to an expenditure of five millions of dollars, reflected the judgment of experts as to the future of the neighborhood. It is true that financial causes of delay have arisen to retard the work on this splendid architectural monument. Nevertheless, its projection produced an extremely beneficial effect on surrounding property.

The year following the purchase of the cathedral site, namely in 1892, St. Luke's Hospital acquired the block bounded by 113th and 114th streets, Morningside and Amsterdam avenues. The transaction comprised eight separate parcels, title to the first being obtained February 29, and to the last March 15. The block contains 44 lots and the aggregate purchase price was \$530,000, making an average of \$12,045 per lot—a marked advance over previous averages, due, partly to the proximity of the cathedral site, and partly to the circumstance that the land was purchased from private owners in comparatively small parcels.

The largest single factor, however, in promoting private real estate and building activity on the plateau was the removal hither of Columbia University. During the three years previous to and including the year of the purchase of the present site, plans were filed for flats and dwellings to cost \$245,000; during the three years following the purchase plans were filed for similar buildings to cost \$780,000—an increase of 218 per cent. These figures take no account of seven dwellings for which plans were filed in 1896 and for which the cost is omitted in the records. The Columbia University site was acquired in October, 1894, at which time the trustees of that institution purchased from the Society of the New York Hospital the four blocks bounded by 116th and 120th streets,

the Boulevard and Amsterdam avenue, for \$2,000,000. The plot includes 294 lots, making an average price of \$6,802 per lot.

It is not necessary to cite all the important conveyances that have been made in the period under review, our primary object being merely to contrast the land values of 1889 with those of 1897. The transactions mentioned were the determining factors in producing the present condition of real estate on the plateau. If now, we proceed to a comparison of the prices of 1889 with those that obtained in the fall of 1897, we find that the advance was sufficiently marked to excite attention. At the sale held by the Society of the New York Hospital in 1889, the lot on the southwest corner of Amsterdam avenue and 114th street brought \$8,600, which was also the price commanded by the lot on the northwest corner of the same avenue and 113th street. The highest price obtained for inside lots fronting on the avenue in this block was \$6,050. In 1897 two inside lots on the west side of the avenue, 25 and 50 feet north of 113th street, respectively, sold for \$13,000 each. The lot on the same side of the same thoroughfare, 25 feet south of 114th street, brought \$16,000. As to corner lots, the records show one transfer in 1897 (Jan. to Oct.), but as the lot in question passed as part of a larger parcel the transaction is useless for purposes of comparison. On the Boulevard we find no conveyances in 1897 which may serve as an expression of values, and the same is the case with respect of Morningside avenue, although it may be noted that the plot, 50x 100, on the southwest corner of that thoroughfare and 118th street, sold for \$22,500 in December, 1896. Practically no activity was felt on Riverside Drive either in conveyancing or in building improvement until the spring of 1897, when twelve lots were put under the hammer at a partition sale conducted by A. H. Muller & Son. On this occasion the lot on the southeast corner of 119th street sold for \$28,000, while inside lots brought from \$14,300 to \$17,750. As a matter of fact, the lots on the avenues, the Drive and the Boulevard are held as investments in strong hands, and will hardly be improved in considerable number until the building up of the streets. The street lots have been the sub-

ject of by far the largest activity both in conveyancing and in improvement. On 113th street, between Amsterdam avenue and the Boulevard, inside lots sold in 1897 at \$8,100, as against \$5,000 in 1889. We have no basis for comparison in the matter of 112th and 114th streets. If we are warranted in drawing a general conclusion from the particular data adduced, it is apparent that land values on the plateau have advanced in eight years between 65 and 164 per cent.

Turning to a consideration of the improvements that have been made on the plateau, we find that buildings to the value of nearly five millions of dollars (\$4,974,550) have been erected during the period under review. In arriving at this estimate, we have accepted the values placed on projected structures in the plans filed with the Superintendent of Buildings; and, with the exception of the cathedral, have included buildings in process of construction as well as those completed. Of this sum, roughly speaking, four millions represent public buildings, comprising those of Columbia University, the Teachers' and Barnard Colleges, St. Luke's Hospital, and the Home for Aged Couples; one-half million represents dwellings, and a quarter of a million stands for flats.

The marked preponderance of dwellings over flats is the result partly of the operation of natural economic conditions, but partly also the design. According to the terms of the sale held by the Society of the New York Hospital in 1889, the lots on 114th, 113th and part of 112th streets, between Amsterdam avenue and the Boulevard, were restricted for a given period—20 years, we believe—to the use of dwellings. Attempts have since been made, but without success, to obtain the consent of owners to a restriction of the entire plateau. It is not impossible, however, that this object may be accomplished by the Morningside Protective Association, of which Seth Low is president; Mr. Spencer Trask, treasurer; and Mr. J. P. Morgan, Jr., secretary; and of which Mr. H. H. Cammann and Mr. Charles T. Barney are directors. But whether or not the formal restriction of the plateau is achieved its character as a high-class residence district is well established, both by the improvements already made and by the sentiment of the prin-

cial owners. Most of the vacant land is held as investments by such corporations and individuals of wealth as the Astors, C. P. Huntington, Robert Goelet, Daniel S. Slawson, the White estate, Jacob Lawson, Amos R. Eno,* Jordan L. Mott, the Society of the New York Hospital, John Watts D. Peyster, James J. Goodwin, Lucy W. Drexel, the Central National Bank, Mary B. O. Dwight, etc. Furthermore, in the absence of better transportation facilities, the class of residents attracted to the heights is not of the kind that is housed in the average flat.

The only transportation lines that traverse the plateau are the horse-car lines on Amsterdam avenue and the Boulevard, the nearest elevated stations being at 104th, 116th and 125th streets. It is doubtful whether the change of power to the underground electric trolley system on Amsterdam avenue will materially affect the district, for this change will hardly achieve a sufficient reduction in the distance between the heights and the business portion of the island. However, the absence for the time being of adequate transportation facilities may not be an unmixed evil, for if a considerable part of the land on the plateau is left vacant until the surrounding territory is built up, ultimate improvements are apt to be of a higher grade than those now warranted and it is only a question of time when the projected municipal rapid transit system, with a main line under the Boulevard will bring the plateau within easy reach of the lower city.

We will now consider the course of events subsequent to the year 1879 in the mercantile section of the city. The reader will remember that this was the locality that felt first the slow improvement which followed the dark days ushered in by the panic of 1873. When that financial disaster arrived it cut summarily short a movement which had been in progress for a number of years, viz.: that of replacing old buildings by more modern ones, a movement which is essential if owners of property are to obtain to the full the benefits of the "unearned increment." Many factors, to be sought for in the larger circumstances of the life of the community, produce this increment, but within the range of our review the chief operat-

*Lately deceased.

ing cause of the great increase in the value of down-town lots has been the possibility of doubling or trebling the revenue obtainable from a given superficial area due to the elevator and the skeleton system of construction. These inventions have increased the potential value of every square foot of city property, and in the down-town section have, economically, necessitated the erection of high buildings.

We have seen that prior to 1879, what in the modern sense may be rightly termed the era of high building had commenced. The number of towering structures were few; indeed, there were only two office buildings—the Tribune and Western Union buildings—which would be ranked to-day among the “skyscrapers.” The first factor that came to the aid of the property owner and enabled him to increase the capacity of his land and thus obtain larger income

The following table shows the building operations projected during the period from 1892 to 1897, inclusive. The southerly side of 110th street, the northerly side of 122d street, and the easterly side of Morningside avenue do not form part of the district under review:

1892.

111th street, s s, 175 w Boulevard; dwelling.....	\$3,250
112th street, s s, 250 w Amsterdam av; dwelling.....	12,500
115th street, n s, 375 w Boulevard; two dwellings.....	30,000
120th street, n s, 100 w Amsterdam av; two dwellings.....	20,000
120th street, n s, 300 w Amsterdam av; Teachers' College.....	300,000
Total	\$365,750

1893.

Amsterdam, Morningside, 110th and 113th streets; St. John's Cathedral	\$5,000,000
Amsterdam, e s, between 113th and 114th streets; St. Luke's Hospital	1,000,000
Total	\$6,000,000

1894.

Morningside, s w corner 114th street; St. Luke's Hospital.....	\$500
Amsterdam, n e corner 117th street; flat.....	60,000
Amsterdam, n w corner 122d street; shed.....	250
117th street, n s, 40 e Amsterdam; six dwellings.....	120,000
Total	\$180,750

1895.

110th street, n s, 75 e Boulevard; six flats.....	\$120,000
112th street, n s, 225 w Amsterdam av; three flats.....	54,000
112th street, n s, 140 w Amsterdam av; two flats.....	42,000
116th and 120th streets, between Amsterdam and Boulevard; Columbia College Library	750,000
Same location; Columbia College conservatory.....	300
117th street, n s, 150 e Amsterdam; ten dwellings.....	200,000
Total	\$1,166,300

from it was the elevator. This device made it possible to increase the height of buildings by three or four stories, scarcely more. But the limitation at this point did not arise from the fact that the capabilities of the elevator were exhausted. It was due to economic difficulties which arose at that height from structural necessities. Each foot of elevation demanded in the structure of buildings wider foundations and thicker walls, so that beyond a certain height much of the area gained in the upper stories was offset by the loss of space in the lower stories and by a much greater proportional cost of construction. It was at this juncture that the iron skeleton system of construction was introduced to supplement and extend the possibilities which the elevator had created. In addition to the possibilities obtained from the elevator and the skeleton construction, the erection of high edifices has been further stimulated by the important economies which have been made year after year in building methods, economies that have reduced the cost of the typical skyscraper from \$2 to 40 or 30 cents per cubic foot.

Until 1879, the Tribune and Western Union buildings stood

1896.

Amsterdam, n w corner 112th street; Home for Aged Couples...	\$140,000
114th street, s s, 125 w Boulevard; seven dwellings.....	Cost not given
116th and 120th streets, between Boulevard and Amsterdam; Columbia College	375,000
Same location and owner.....	220,000
Same location and owner.....	Cost not given
Same location and owner; chemical laboratory.....	400,000
Same location and owner; gymnasium, etc.....	600,000
120th street, n s, 455 w Amsterdam; Teachers' College.....	200,000
119th and 120th streets, between Boulevard and Claremont; Barnard College	132,000
Same location and owner.....	160,000
Total	\$2,227,000

1897. (To September 11, inclusive.)

Amsterdam, n w corner 113th street; flats.....	\$75,000
116th and 120th streets, between Boulevard and Amsterdam; Columbia College vaults	60,000
Boulevard, w s, 221.10 s 122d street; shop.....	2,000
113th street, s s, 125 e Boulevard; seven dwellings.....	97,000
113th street, s s, 94 e Riverside; three dwellings.....	30,000
113th street, s s, 150 w Boulevard; dwelling.....	15,000
113th street, n s, 300 w Boulevard; five dwellings.....	95,000
114th street, No. 605; dwelling.....	16,000
114th street, s s, 325 w Amsterdam; two dwellings.....	36,000
Claremont, 118th to 119th street; Barnard College dormitory..	150,000
Total	\$576,000

alone as examples of the modern tall building, not because of financial ill success, but because of hard times. In that year, however, under the more prosperous conditions then prevailing, the era of high buildings commenced or recommenced in earnest. The Smith Building on Cortlandt street was finished, the Morse Building, on the northeast corner of Nassau and Beekman was finished, and in the same year (1879) the London, Liverpool and Globe Insurance Company purchased Nos. 47 and 49 William street and Nos. 41 and 43 Pine street for \$175,000 preparatory to erecting the large structure now standing on that site. Eighteen hundred and eighty was a particularly good year for general business and many large transactions in down-town mercantile property were consummated, and a few large structures were commenced. The iron store building on Broadway, at Grand street, was started. The northwest corner of Broadway and Duane street, upon which stands the headquarters of the Mutual Reserve Life Fund, was sold for \$250,000. John Jacob Astor purchased Nos. 8 and 10 Wall street for \$500,000, and William Astor, No. 6 Wall street, for \$156,250, acquisitions which led to important improvements. The United Bank Building, on the northeast corner of Broadway and Wall street, was commenced. In 1881 there was a brisk demand for property around Beaver, Broad and Stone streets in the immediate vicinity of the site upon which the new Produce Exchange was to be built. John Jacob Astor bought No. 5 Pine street for \$83,000, and early in the year it was settled that the great Mills Building on Broad street and Wall street was more than a paper scheme. Plans were filed for an iron building, designed by Richard M. Hunt, at Nos. 162 and 164 Broadway, to cost \$200,000. Temple Court, on the site occupied by Clinton Hall, southwest corner of Beekman and Nassau streets, was projected. This old hall was one of New York's historical edifices, haunted by the memories of bygone generations. It was there that the fashionable society of the metropolis gathered in the Thirties for musical and literary entertainments. It was then in the aristocratic district. The ground, with the exception of the corner lot, was sold in 1839 for \$55,000. Among other notable transactions in 1881 was the sale of Nos. 361 and 363

Broadway, on which was a six-story iron store, for \$250,000, and the seven-story marble building Nos. 67 and 69 Wall street, was started. In this year the fire insurance business began to concentrate in the district between Wall and Liberty streets, Broadway and Pearl street, which subsequently resulted in a series of costly improvements. The Produce Exchange secured the site for its building which was started in this year. Plans were furnished also for the Welles Building, Nos. 14, 16, 18 and 20 Broadway, extending by an L to Nos. 5 and 7 Beaver street. In July, Cyrus W. Field purchased at auction the old Washington Hotel on the northwest corner of Broadway and Battery place for \$167,500, also from Caroline W. Astor for \$70,000 the adjacent property on the northeast corner of Battery place and Greenwich street, transactions which at that time produced much discussion as to the use which the new owner would make of the land. Some said it was to be employed as headquarters for the elevated roads and others thought that perhaps it would be the site of a large apartment house commanding the superb prospect over the river and bay. In October the New York Steam Heating Co. commenced the erection of a portion of its building on the west side of Greenwich street, between Cortlandt and Dey streets. The Vanderbilt Building on Nassau street, on the southeast corner of Beekman street, was also in course of construction in this year—a year so prolific of important improvements.

In the following year Cyrus W. Field bought No. 3 Broadway, 41.6x170, for \$200,000, and started the Washington Building. The old home of the "World," on the corner of Beekman street, opposite the City Hall Park, was destroyed by fire in January, and Orlando B. Potter at once began to erect on the site the building that bears his name. Lamb & Rich prepared plans for an architecturally noteworthy building, among the multitude of crudities and platitudes in its vicinity, on the southeast corner of Broadway and Broome street, for William H. de Forest. A. J. Bloor was engaged with the designs for the building on the northwest corner of Liberty and Nassau streets, and at this time, obliquely opposite, on the corner of the same streets, the Mutual Life Insurance Company

was preparing to build. Toward the close of the year the Goelets determined to improve property recently acquired by them on Whitehall street, between Stone and Bridge streets. It embraced the entire block on Whitehall street, and as it was occupied then by Kimball's cotton warehouse, that name was given to the new edifice.

In 1883 the Williamsburgh Fire Insurance Company started to build on the northeast corner of Broadway and Liberty street on the property acquired at the Jumel sale, and in January plans were filed for the Merchants' Bank Building, Nos. 40 and 42 Wall street. These and the improvements already mentioned marked the beginning of the reconstruction of Wall street. Later in the year the Cotton Exchange was decided upon, the plans being filed in October. The Mercantile Exchange also was planned for.

In 1884 the Standard Oil Company started work upon its headquarters on lower Broadway. No. 54 Wall street was purchased by J. A. Scrymser for \$355,000, and No. 33 Nassau street by R. Stuart for \$165,000. It is interesting to note that in this year the Stock Exchange, the removal of which has been discussed on several occasions, advertised for a site for a new building within the district bounded by State, Pearl, Duane and Church streets. The latter circumstance recalls the fact that it was expected for several years, and for a time it was considered as settled, that a movement further northward of the financial centre of the city from the neighborhood of Wall street was inevitable, and more than once there was serious talk of moving the Exchange. However, the success of the elevated roads and the erection of high buildings rendered shifting quite unnecessary.

Early in 1884 the first sale of the old French's Hotel, facing City Hall Park, was made, the property going to one of the heirs at \$410,000. This was the first step in the replacement by modern structures of the old hostelry which represented New York of more than a generation ago. In this year the office building for the Astor estate from No. 94 to 98 Broadway, with frontings on Wall and Pine streets, was commenced. The land on which this building was to stand was originally purchased at prices which seemed

absurdly low, compared with those which now obtain. The lot, No. 96 Broadway, size 21.9x100x20.10x100, was purchased by John Jacob Astor from Hezekiah Wheeler, merchant tailor, on April 14, 1847, for \$27,600; No. 94, which is 16.6x100x13.10x100, was purchased by William W. Astor, from the heirs of William B. Gilley, on March 16, 1853, for \$32,500. Compare these prices with sales made at the time the Astors determined to improve—for instance, the building No. 62 Broadway and No. 21 New street, near Exchange place, was purchased on May 8, 1883, for \$178,500. The house No. 68 Broadway and No. 17 New street, size 22.10x119.5, was sold on March 1, 1883, for \$170,000. Broadway, Nos. 52, 54 and 56, and 31 to 39 New street, 124.11 on Broadway, x159.10x130.1 on New street, x135.2 on Exchange place, was sold on February 20, 1883, for \$1,000,000. The northwest corner of Broadway and Liberty street, 25.4x85.2, with an L 25.4 and about 47.7 on Liberty street, was bought under the hammer at the Jumel estate sale, May 31, 1882, by the Williamsburgh City Fire Insurance Company for \$356,000. This shows the great difference between the prices which obtained before the Civil War as compared with those demanded for choice Broadway property twenty years later.

Toward the close of 1885 there were labor troubles which hampered and prevented operations. By the first of the new year, however, they were all terminated, and bad times in Europe and the slight dullness in the mercantile world led to decline in wages and building material, which somewhat stimulated building operations down town. The Emigrant Industrial Savings Bank determined to build upon Chambers street, and appointed W. H. Hume to draw the plans. The final partition sale of French's Hotel was held in October and the property passed into the hands of Pelham St. George Bissell, for \$460,000. In 1886 Aldrich Court was commenced at Nos. 41 to 45 Broadway. The Down-town Association commenced its club building at Nos. 60 and 62 Pine street and 22 and 24 Cedar street. The Metropolitan Telephone and Telegraph Company was preparing to build at Nos. 16 to 20 Cortlandt street, and the Equitable Life Insurance Company called upon George B. Post for plans for what was practically the reconstruc-

tion of its old headquarters on Broadway, first constructed in 1868. The Gallatin National Bank was building in this year, so was the structure adjacent, No. 38 Wall street. No. 54 Wall street was building. St. Paul's School, Church street, in the rear of St. Paul's Church, was under way. The Consolidated Exchange was planned for. The design of Stephen D. Hatch for the new Armory Building, on the site of the Produce Exchange, received a favorable indorsement from the Secretary of War.

Following 1887 there was, for a year or two, a lull in large building operations down town. The skeleton system of construction had not yet been adopted and architects were doing no more than experiment with iron in the vertical supports of buildings. The first edifices in which this plan of construction was employed were the Tower Building, at No. 50 Broadway, and the London and Lancashire headquarters, on Cedar street. The former building dates from 1889 and the latter from 1890.

With the adoption of the skeleton system the second period of the high building era began. Roughly speaking, it dates from 1890. Among the principal office buildings which belong to it are the following,* the dates given being the years in which the plans were filed: 1889. The Times Building, 13 stories, and the World Building, 15 stories; the Union Trust Company's Building, Broadway and New street, 10 stories; the Farmers' Loan and Trust Company's Building, Nos. 16 to 22 William street, 8 stories. 1890. The Metropolitan Life Insurance Building, northeast corner of Madison avenue and 23d street, 12 stories; Clinton Hall, Astor and Lafayette places, 7 stories; the Western Union Telegraph Building, Broadway and Dey street, 10 stories.† 1891. The Havemeyer Building, Cortlandt and Church streets, 14 stories; the Mail and Express Building, No. 203 Broadway, 11 stories; the Mohawk Building, 5th avenue, southwest corner 21st street, 9 stories; the United Charities Building, Fourth avenue, northeast corner of 22d street, 7 stories; the D. L. & W. R. R. Building, No. 26 Exchange place, 10 stories; the Wolf Building, Nassau, southwest corner of Fulton, 9 stories; the Vanderbilt Building, No. 15 and 17 Beekman

*Not all the buildings here mentioned are constructed upon the skeleton system.

†Reconstructed after fire. The upper five stories are new.

street, 15 stories; the building Nos. 39 and 41 Cortlandt street, 12 stories; the Morris Building, Nos. 64 and 68 Broad street, 10 stories. 1892. The Cable Building, Broadway, northwest corner of Houston street, 9 stories; the Postal Telegraph Building, Broadway, northwest corner of Murray, 13 stories; the Mutual Reserve Building, Broadway, northwest corner of Duane, 14 stories; the Home Life Insurance Building, No. 256 Broadway, 16 stories; the Church Mission House, southeast corner of Fourth avenue and 22d street, 6 stories. 1893. The Manhattan Life Insurance Building, Nos. 64 to 68 Broadway, 16 stories; the Lawyers' Title Insurance Co.'s Building, Nos. 44½ to 46 Maiden lane, 13 stories; the Corn Exchange Bank Building, William street, northwest corner of Beaver, 11 stories; the Continental Fire Insurance Co.'s Building, Nos. 44 to 48 Cedar street, 13 stories; the Wallace Building, Nos. 56 and 58 Pine street, 12 stories; the Kuhn, Loeb & Co.'s Building, Nos. 27 and 29 Pine street, 13 stories; the Shoe and Leather Bank Building, Broadway, southwest corner of Chambers, 12 stories; the Constable Building, Fifth avenue, northeast corner of 18th street; 12 stories; the Downing Building, Nos. 106 and 108 Fulton street, 16 stories. 1894. The Presbyterian Building, Fifth avenue, northwest corner of 20th street, 12½ stories; the American Tract Society's Building, Nos. 144 to 150 Nassau street, 23 stories; New York Life Building (rear), Elm, Leonard and Catharine streets, 12 stories; American Surety Building, Nos. 100 to 106 Broadway, 20 stories; the Wolfe Building, No. 66 Maiden lane, 13 stories; the Fidelity and Casualty Building, Cedar street, north side, from Temple street to Trinity place, 11 stories; the Coffee Exchange, Nos. 113 to 117 Pearl street, 9 stories. 1895. The St. Paul Building, Broadway, Park row and Ann street, 26 stories; the Bowling Green Building, Nos. 5 to 11 Broadway, 16 stories; the New York Life Building (front), Nos. 346 to 348 Broadway, 12 stories; the Woodbridge Building, Nos. 98 to 106 William street, 12 stories; the Commercial Cable Building, Nos. 20 to 22 Broad street, 21 stories; the Syndicate Building, Nassau, southwest corner of Liberty, 15 stories; the Sampson Building, Nos. 63 and 65 Wall street, 16 stories; the Rhinelander Building, Nos. 232 to 238 William, 12 stories; the Lord's Court Building, Nos. 25 to 29

William, 15 stories; the Weld Building, Broadway, southwest corner of 12th street, 14 stories. 1896. The Central National Bank Building, Broadway, northeast corner of Pearl, 15 stories; the Empire Building, Broadway, southeast corner of Rector, 20 stories; the Hudson Building, Nos. 32 and 34 Broadway, 16 stories; Queen's Insurance Co.'s Building, William street, northwest corner of Cedar, 15 stories; the Townsend Building, Broadway, northwest corner of 25th street, 12 stories; the Gillender Building, Wall street, northwest corner of Nassau, 16 stories; the Bank of Commerce, Nassau street, northwest corner of Cedar, 20 stories; the St. James Building, Broadway, southwest corner of 26th street, 16 stories; Exchange Court Building, Broadway, Exchange place and New street, 12 stories; the Western National Bank Building, Pine street, northwest corner of Nassau, 7 stories; Ivins Syndicate Building, Nos. 13 to 21 Park row and No. 13 Ann street, 30 stories; the Metropolitan Telephone Building, Nos. 13 to 17 Dey street, 15 stories. 1897. The Washington Life Building, Broadway, southwest corner of Liberty, 19 stories; the Singer Building, Broadway, northwest corner of Liberty, 10 stories; the Dun Building, Nos. 290 to 294 Broadway, 15 stories; the Cushman Building, Broadway, northeast corner of Maiden lane, 12 stories; the building Nos. 9 to 13 Maiden lane, 15 stories; the Chesebrough Building, Pearl, southeast corner of State, 15 stories.

The multiplication of the tall building since 1879, and particularly since the crisis of 1893 (for in times of financial peril capital forsakes other securities and turns to real estate), has placed downtown mercantile property in a critical situation. Land values have adjusted themselves to the income producing power of the tall buildings, while the sudden increase in accommodations, resulting from the erection of these mammoth structures, has reduced rentals, thus increasing the pressure on the owners of antiquated properties to improve, and aggravate the competition for tenants. Building in the down-town section has unquestionably been temporarily overdone, as may be seen by a comparison of the increase in accommodations in a typical office building district with the development of the city's business since 1880. The district selected is

the eleven blocks bounded by Beaver street, Battery place, Trinity place, Pine and William streets, which houses the bulk of the city's financial business. In this district are located no less than forty-four modern office buildings, including the Bowling Green, Empire, Manhattan Life, Standard Oil, Johnson, Morris, Lord's Court, Commercial Cable, Exchange Court, Surety and Gillender buildings. Offices under construction are, for obvious reasons, treated as if already built. The ground dimensions of each of these forty-four buildings have been obtained from the insurance maps, likewise the number of stories which each contains. From an examination of the plans of several typical structures, and from inquiry among architects, the conclusion is drawn that 60 per cent of the floor space of modern office buildings is rentable. The average number of stories in the old buildings that remain in the district under consideration is 43.11. This average has been accepted for the structures replaced by the forty-four new buildings, their total ground dimensions being, of course, the same as those of the latter. Inquiry similar to that conducted in the case of new buildings fixes the average amount of rentable floor space in the old buildings at 70 per cent. With the foregoing elements as a basis for computation, the following results are obtained:

	Rentable.
Floor space in 11 blocks in 1880, square feet.....	2,600,871
Less since displaced for new buildings.....	1,167,891
Balance, square feet	1,432,980
Added by new buildings, square feet.....	2,481,004
Total square feet, 1897	3,913,984

It is found that since 1880, there has been added to the rentable floor space 1,313,113 square feet, an increase of 50 per cent., or the equivalent of 13,131 rooms each 10 feet square. Moreover, the actual increase of gross floor space on the land improved was 2,466,591 square feet, or 147 per cent., and of rentable space, 1,313,113 square feet, or 112 per cent. The last mentioned figures show the capacity of the high building for increasing office space, so far as it has been shown in this city over a series of years. Of course, it is proportionately very much greater as we come to present times, when twenty-story buildings are becoming somewhat common in the

district under review and where all such buildings have been erected in the last four years.

Now, while in this period of seventeen years the rentable office space has been doubling, what has been the increase in business? A partial test will be furnished by the exports and imports at New York City. In view of the periodical changes in the tariff it is impossible to take individual years as a basis for comparison. This difficulty is overcome if we let the total value of the imports and exports of 1880 be represented by the average annual imports and exports for the ten years from 1871 to 1880, inclusive, and the value of the foreign commerce of 1896 by the average annual commerce for the period from 1885 to 1896. On this basis the total value of the imports and exports at New York was, in 1880, \$728,034,111; in 1896, \$963,465,761—an increase of 32 per cent. in commerce as against 50 per cent. in rentable office space. The foreign commerce of the port of New York, however, is only one of the elements which require consideration in determining the demand for office accommodation. General business, as measured by the clearings of the New York Clearing House, does not show a correspondingly large growth. The average annual clearings during the decade ending in 1896 was \$32,479,409,174 as against \$27,627,943,031 during the decade ending in 1880—an increase of only 17 per cent. Clearings fell from 36 billions of dollars in the year before the panic to 29 billions in 1896. The reports of the transactions of the Stock, Produce and Cotton Exchanges, show also a pronounced falling off in business since 1893, as the following statement of the number of shares and par values of State, railroad and government bonds dealt in on the New York Stock Exchange, and of the grain in bushels, bought and sold on the New York Produce Exchange and the number of bales of cotton traded in on the New York Cotton Exchange each year, from 1892 to 1896, inclusive, will show:

Year.	Shares of stocks.	State & R. R. bonds.	Government bonds.	Cotton, bales.	Grain, bushels.
1892.	86,850,930	\$501,398,200	\$1,662,400	53,359,900	1,585,154,365
1893.	77,984,965	299,372,327	2,021,450	37,894,400	1,342,711,302
1894.	42,275,736	352,741,950	4,293,300	39,469,800	1,475,811,925
1895.	66,440,576	495,904,950	7,046,250	56,465,000	1,899,353,400
1896.	54,490,043	353,815,850	27,121,550	35,113,000	1,285,903,500

Foreign commerce recovered from the effects of the panic of 1893 in the space of a year, but it was not until last summer that the Exchanges witnessed a substantial renewal of activity. It is in this fact that a hopeful outlook for high buildings is to be found. Existing conditions make it reasonable to conclude that the volume of business will experience a substantial increase, and be accompanied by a sharper demand for money and by advances in the price of building materials, thereby giving a check to the building movement while augmenting the demand for office space.

As to the effect of the introduction of the elevator and steel construction on the value of land in the heart of the downtown section, the following table of sales and prices, arranged chronologically, will give some idea:

Location.	Date sold.	Purchaser.	No. of sq. ft.	Cost.	Price, sq. ft.
Broadway, No. 84.....	Nov. 30, 1868.	Danford N. Barney..	1,800	\$130,000	\$72.22
Broadway, No. 254.....	Jan. 30, 1869.	Home Life Ins. Co..	2,550	140,000	54.90
Pine, No. 34.....	Mar. 4, 1869.	Daniel H. Baldwin..	1,392	45,200	32.47
Nassau, n e cor Pine....	June 22, 1869.	Fourth National Bank	5,615	470,000	83.70
Broadway, No. 179.....	May —, 1870.	International Ins. Co.	2,584	165,000	63.85
Broadway, e s, 67 s Pine.	Feb. 25, 1871.	Continental Ins. Co..	1,750	112,500	64.28
Broadway, No. 180.....	April 20, 1871.	Chas. J. Smull.....	2,600	75,000	28.84
Pine, Nos. 4 to 6.....	July 31, 1871.	William Farman	2,472	120,750	48.84
Broad, s e cor Wall.....	April 20, 1872.	Anthony J. Drexel....	717	250,000	348.67
Wall, No. 27.....	April 27, 1872.	Anthony J. Drexel....	1,803	250,000	138.65
Broadway, n w cor Dey ..	May 1, 1872.	Western Un. Tel Co.	6,250	850,000	136.00
B'way, n e cor Maiden la.	May 3, 1872.	Don Alonzo Cushman	1,250	161,000	131.20
Pine, Nos. 4 to 6.....	Nov. 8, 1872.	Chas. E. Vernam....	2,472	150,000	60.67
Broadway, No. 179.....	Feb. 14, 1873.	Samuel D. Babcock..	2,525	155,000	61.38
Broadway, No. 200.....	Feb. 4, 1875.	Julia C. Witthaus...	3,680	160,000	43.20
Broadway, Nos. 112-114...	June 25, 1875.	John W. Simpson....	3,525	300,000	85.10
Broadway, No. 180.....	July 1, 1875.	Chas. G. Baadouine..	2,600	175,000	59.61
Maiden lane, No. 6.....	Oct. 10, 1879.	Henry G. DeForest..	1,883	47,750	25.35
Broadway, Nos. 234-235...	April 4, 1880.	Thomas Maddock....	4,220	122,000	28.90
Broadway, No. 92.....	May 1, 1880.	First National Bank..	2,733	220,000	80.49
Wall, No. 4.....	April 29, 1880.	First National Bank..	1,065	94,000	88.26
Wall, No. 6.....	Aug. 14, 1880.	Chas. F. Southmayd } trustee Wm. Astor }	2,690	156,250	57.63
Wall, Nos. 8 and 10.....	Jan. 22, 1881.	J. J. Astor.....	5,700	500,000	87.58
Broad, No. 11.....	Mar. 11, 1881.	D. O. Mills	2,486	200,000	80.44
Pine, No. 9.....	Mar. 17, 1881.	J. J. Astor	1,752	100,000	57.07
Broad, Nos. 17-19, and } Exchange pl., No. 55. }	April 27, 1881.	D. O. Mills	8,655	637,500	73.65
Wall and Broad, s w cor }	April —, 1882.	M. Wilkes	508	168,000	330.70
Wall, No. 7, s w cor } Wall and New	May 1, 1882.	W. W. Smith	1,525	240,000	157.37
Wall, No. 35, and Broad, } Nos. 13 and 15..... }	May 2, 1882.	D. O. Mills	8,622	625,000	72.48
Nassau, No. 19.....	May 10, 1882.	Julia F. Ludlow	2,050	170,000	82.92
Liberty and B'way, n e cor	May 31, 1882.	Wmsb'rg Fire Ins. Co	3,070	356,000	115.96
Cedar and Nassau, s e cor	July 31, 1882.	Germania Life Ins. Co.	5,494	462,000	84.18
Wall, No. 12.....	Nov. 1, 1882.	J. J. Astor	2,635	300,000	111.31
B'way and Exchange pl. } s e cor	Jan. —, 1883.	J. J. Astor.....	19,115	1,000,000	52.31
Pine, Nos. 4 and 6.....	Mar. 8, 1884.	Equitable L. Ass. Co.	2,506	267,500	106.74
Pine, Nos. 8 and 10.....	Mar. 8, 1884.	Equitable L. Ass. Co.		400,000	115.00
B'way and Pine, n e cor..	Jan. 2, 1885.	Equitable L. Ass. Co.	4,896	762,500	155.75

Location.	Date sold.	Purchaser.	No. of sq. ft.	Cost.	Price, sq. ft.
Broadway, No. 135, s e cor Cedar, extending to Temple st	Mar. 15, 1887.	Horace Waldo	3,283	351,000	106.94
Broadway, No. 137	Mar. 15, 1887.	Niagara Fire Ins. Co. 2,323		356,200	141.10
Broadway, No. 149; Lib- erty, No. 83, n w cor. }	Mar. 14, 1890.	Singer Mfg. Co.	3,006%	544,500	181.12
B'way, No. 145, s w cor Liberty; Liberty, Nos. 86-88, s e cor Temple. }	Dec. 3, 1891.	Mrs. John Wolfe et al	6,587	770,000	118.47
B'way, No. 68; New, No. 17	Mar. 15, 1892.	Manhattan L. Ins. Co	2,830	375,000	132.51
Park row, No. 75; North William, No. 23, }	Mar. 15, 1892.	John Delahunty	1,263	150,000	118.76
Park row and Ann st., n e cor	Mar. 29, 1892.	Joseph Pulitzer	1,317	208,000	157.93
B'way, Nos. 64 and 66; New, Nos 17 and 19, ... }	April 4, 1892.	Manhattan L. Ins. Co	5,413	850,000	157.03
B'way, Nos. 64 and 66; New, No. 19	April 4, 1892.	Manhattan L. Ins. Co	5,420	850,000	156.82
Broadway, No. 257	April 15, 1893.	Home Life Ins. Co.,	2,700	250,000	92.60
B'way, Nos. 32 to 42, ... }	April 21, 1893.	J. N. Golding	33,016	1,900,000	57.55
New, Nos. 49 to 71, ... }					
B'way, s w cor 31st st.,	April 24, 1893.	Joseph Wechsler	12,187	700,000	57.44
Broad. No. 22, }	April 25, 1893.	J. M. Levy	4,410	310,000	70.30
New, Nos. 20 and 20½, Nassau, Nos. 40 and 44, n e cor Liberty, }	May 18, 1894.	Brooklyn Life Ins. Co	923	135,500	146.80
Dey, No. 15	Mar. 20, 1894.	Met. Tel. & Tel. Co.,	1,899	100,000	52.65
Malden lane, No. 11, }	May 21, 1894.	L. A. Fellows	1,662½	128,000	76.99
Liberty, No. 98, s e cor Trinity pl. }	May 23, 1894.	W. E. Dennis	1,380	125,000	90.57
John, No. 19, }	June 28, 1894.	M. S. Ives,	1,777	126,250	71.04
John, No. 90, s e cor Gold	Oct. 8, 1894.	J. G. Floyd,	846	50,000	59.10
Liberty, Nos. 92 and 94, s w cor Temple st., ... }	Jan. 18, 1895.	W. Agar	2,828	250,000	88.40
Ann, Nos. 10 and 12, }	Jan. 31, 1895.	National Park Bank,	1,144	150,000	106.60
Malden lane, No. 62, s w cor William	Feb. 1, 1895.	T. G. Thomas,	1,277	100,000	78.30
Wall, No. 65, }	Feb. 28, 1895.	Duchess de Dino ...	2,321½	138,905	59.83
Broadway, Nos. 218 to 222, s e cor Park row Ann, No. 6	Mar. 13, 1895.	H. O. Havemeyer ...	5,780	900,000	155.70
Nassau, Nos. 35 and 39, Liberty, Nos. 56 and 58, s w cor	April 26, 1895.	H. Lamb	9,188	†1,250,000	136.04
Fulton, No. 140, }	May 27, 1895.	J. S. Lyle	2,725	136,250	50.00
Exchange pl, No. 66, s e cor New st	June 24, 1895.	J. H. Johnston	1,374	170,000	123.79
Broad, Nos. 20 and 22; New, Nos. 18, 20, 20½, }	Aug. 22, 1895.	Com'l Cable Bldg. Co.	7,536	*1,126,300	149.32
Dey, No. 17	Nov. 12, 1895.	Met. Tel & Tel. Co.,	1,909½	116,000	60.76
William, No. 157, n w cor Ann	Nov. 25, 1895.	S. Palmer	1,463	82,500	56.39
Nassau, Nos. 9 and 11, s w cor Pine	Dec. 5, 1895.	Hanover Nat'l Bank.	6,034	1,350,000	223.39
Pine, No. 11					
William, Nos. 67 and 69, n w cor Cedar	Jan. 15, 1896.	Queens Ins. Co.	3,137½	340,000	108.37
Broadway, No. 39, }	Feb. 1, 1896.	W. B. Bacon et al.,	5,680	300,000	52.81
Trinity pl, No. 15, }					
Nassau, Nos. 13 to 15, n w cor Pine	Mar. 4, 1896.	{ J. E. Searles for } { Equitable Life. }	2,959	740,000	250.00
Malden lane, No. 11, }	Mar. 25, 1896.	N. Y. Realty Co.	1,662½	129,680	78.00
Broadway, No. 57; New Church st, No. 33, or Trinity pl., No. 95, ... }	April 1, 1896.	R.A. & W.A. Pinkerton	5,769	395,000	68.46
Broadway, No. 201, n w cor Reade	April 10, 1896.	{ W.B. Bacon et al. } { trustees will of } { A. Hemenway. }	3,074	402,000	130.77
Wall, Nos. 41 and 43, ... }	April 16, 1896.	Wm. K. Aston	4,259	805,000	189.01
Liberty, Nos. 95 and 97, ... }	April 30, 1896.	N. Y. Realty Co., ...	3,562	125,500	35.54
Broadway, No. 290, n e cor Reade	May 1, 1896.	R. G. Dun	1,132	125,000	110.42
William, No. 60, }	May 2, 1896.	Com'l Union A. Co.,	928	100,000	107.75
Spring, Nos. 139 & 141, Wooster, Nos. 94 to 98, }	May 7, 1896.	J. Weil & B. Mayer.,	5,300	258,000	48.71

*Largely represented by stock of purchasing company.

†Includes consideration for building loan, etc.

Location.	Date sold.	Purchaser.	No. of sq. ft.	Cost.	Price, sq. ft.
Willam, No. 62.....	May 16, 1896.	Germania F. Ins. Co.	3,101	200,000	64.49
Walker, No. 81.....	June 27, 1896.	E. Matheson	3,600	120,000	33.33
Broadway, Nos. 5 to 11; Greenwich, Nos. 5 to 11 }	July 25, 1896.	Broadway Realty Co.	29,152	3,000,000	102.50
Lispenard, Nos. 60 and 62	Sept. 1, 1896.	E. G. Stedman	4,227	163,000	38.56
Willam, Nos. 75 and 77..	Oct. 30, 1896.	H. L. P. Stokes	4,081	408,000	99.97
Nassau, No. 80	Dec. 30, 1896.	N. Y. Realty Co.....	3,538	160,000	45.22
Pine, No. 35	Feb. 6, 1897.	Union Assur. Society	1,722	150,000	87.00
Walker, Nos. 105 to 107..	Mar. 4, 1897.	W. J. Devlin	5,131	250,000	48.72
Maiden lane, No. 6.....	Mar. 18, 1897.	H. Marquand	1,884	141,000	74.89
Nassau, No. 80.....	June 7, 1897.	C. T. Harbeck	3,472	200,000	57.60
Maiden lane, No. 15.....	June 11, 1897.	.....	2,332	80,000	76.33
Broadway, n e cor of } Maiden lane	June —, 1897.	G. F. Wilcoxson.....	1,250	245,500	196.40

An important movement down town is that which has resulted in the conversion of the streets parallel to Broadway, between Canal street and Washington square, to warehouse purposes. This new expansion of the business part of the city has come to be known as the Mercantile District. As far back as 1879 there was considerable activity in the lower parts of Spring, Greene and Mercer streets. Along Greene and Mercer streets a number of large warehouses and factories were constructed, and business began to encroach upon that part of the town. Before the expulsion of the Tweed Ring, there were a number of schemes afoot to regenerate certain portions of New York City. One company was partially organized to buy up property in the Five Points, and make this locality a business centre. Other schemes were on foot to regenerate the old 8th Ward; that is, that part of the city lying above Canal street and west of Broadway, but below Houston street. The argument was used that there was a section of the city within gunshot of the largest business marts, which could be reached readily, was adjacent to the docks on the North River, and was low priced. It was urged that the growth of the city, from the 5th Ward upward, would make this territory especially valuable. Indeed, it was in furtherance of this scheme that the Tweed Ring proposed to run a street through Washington square, and extended South Fifth avenue in the 8th Ward. The breaking up of the Ring and hard times put a stop to these schemes. In 1879 far-seeing real estate owners began to pay some attention to this part of the city, with a view to future profit. Many large and costly stores and factories were erected upon Mercer street, and there were some efforts made to improve other streets parallel to Broadway and west of that avenue.

This region was once the home of a large middle class population, but the upward movement of population threw the old-fashioned residences into the hands of ordinary tenants, while Mercer and Greene streets, following the precedent set by Church street, began to abound in some of the vilest haunts of the metropolis. One by one the old malodorous dwellings along these thoroughfares were pushed out by large warehouses, occupied principally by the dry-goods and notions trades.

The building done, however, in these and the following years cannot be properly included in what is known as the Mercantile District. The creation of the new locality may be said to have commenced in February, 1884, when the Cohnfeld Building was erected at the southeast corner of Bleecker and Greene streets. This was the pioneer structure, for which Mr. Alfred Zucker was responsible not only for the plans, but for the selection of site. The friends of the owner and many experienced real estate men regarded the placing of such a building in such a position as a foolish and ill-considered step—the reputation of the place was so bad and its advantages for commercial purposes were so far from being appreciated. A couple of years passed before Mr. Cohnfeld's example attracted any imitators. In 1886 some work was done on Houston street, and in 1887 on upper Greene street without, however, greatly affecting the value of property. For instance, in 1884 a plot 25x100, No. 163 Greene street, sold for \$30,000, and a couple of years later lots at Nos. 159 and 161 of the same size but somewhat better improved were sold for \$34,000 and \$32,750 respectively.

Late in 1889, however, a very active buying movement commenced within the district bounded as follows: Commencing at Broadway, northwest corner of Canal street, thence running north along the west side of Broadway to the south side of 14th street,

In two weeks in 1882 plans for the following were filed: Greene street, No. 16, six-story iron store; cost, \$26,000; Greene street, No. 18, six-story iron store; cost, \$32,000; Greene street, No. 45, six-story iron store; Greene street, Nos. 121 and 123, six-story warehouse; cost, \$75,000; Greene street, No. 125, six-story warehouse; cost, \$35,000; Greene street, No. 133, six-story warehouse; cost, \$48,000; Greene street, No. 135, six-story warehouse; cost, \$48,000; Greene street, No. 137, six-story warehouse; cost, \$48,000; corner Greene and Spring streets, warehouse; cost, \$60,000; corner Greene and Spring streets, warehouse; cost, \$80,000.

thence west along 14th street to the east side of 6th avenue, thence running along 6th avenue to the southeast side of Carmine street, thence southwest along Carmine street to the northeast side of Varick street, thence southeast along Varick street to the north side of Canal street, thence east along Canal street to Broadway to a point at the beginning, nearly \$16,000,000 worth of property was sold in one year and plans were filed for buildings to cost nearly \$4,000,000. This decided the character of the district and produced one of the most extensive movements in real estate that has occurred down town within the period we are considering.

The tenantry of the new mercantile district was drawn very largely from the wholesale firms occupying antiquated quarters in Broadway, between Murray and 14th streets. Owners of Broadway property, in order to meet the competition of the improved mercantile buildings in the new district, began, in 1890, to improve on a large scale, with the result that the supply of mercantile housing facilities has outstripped the demand. In January, 1898, there were no less than 177 buildings for rent, in whole or in part, in Broadway, between Murray and 14th streets, of which 30 contained vacant stores, 128 one or more vacant lofts, and the rest vacant offices.

The supremacy of this section of Broadway as a seat of wholesale business makes it of interest to discover what the increase in mercantile accommodations has been since the reconstruction of the avenue began in 1890. The total store and loft space from Murray street to 14th street in 1890 was 5,637,374 sq. ft. Of this 1,713,300 sq. ft. were removed to make way for new buildings, leaving 3,924,074 sq. ft. in the old buildings standing. To this new store and loft buildings have added 3,699,121 sq. ft., making a total of that class of space existing to-day of 7,623,195 sq. ft., or an increase of about 40 per cent. on the total of 1890. Of the space deducted 405,300 sq. ft. was replaced by office buildings, which contain a floor space of 1,066,050 sq. ft. The last mentioned figures relate to the space contained in the Postal, Home Life, Shoe and Leather Bank, Mutual Reserve, Central Bank, New York Life and Cable Buildings. Three other buildings might call for some further modification of

the figures, but as they are store, loft and office buildings, they have been classed among stores and lofts to prevent confusion by making too many divisions. Consequently the new store and loft space of 3,699,121 sq. ft. was substituted for 1,308,000 sq. ft., the proportion of new to old displaced being nearly 2.8 to 1. Perhaps some little deduction should be made because of the fact that some of the old buildings removed were used as offices, everything having, in the first place, been taken as store and loft space for the sake of convenience; but this would not materially change the result arrived at. It should be mentioned, also, that no account has been taken of the space in the Morton House Block, or that occupied by Grace Church, so that all important necessary deductions have been made. Another fact to be noted is that, unlike the floors in store and loft buildings, only 60 per cent. of the space in modern buildings is rentable, so that the new office buildings mentioned contain in 1,066,050 sq. ft. floor space only 699,630 sq. ft. rentable space. These figures may be summarized as follows:

	Square ft.
Total floor space, Murray to 14th street, 1890.....	5,637,374
Less since removed for new bulidings:—	
For stores and lofts	1,308,000
For offices	405,300— 1,713,300
Balance	3,924,074
Added by new store and loft buildings.....	3,699,121
Total store and loft space, 1898.....	7,623,195
Total office floor space	1,066,050
Total office rentable space	699,630

The rapid production of new mercantile housing facilities has naturally depressed rents. The upper lofts in unimproved buildings are, to use the expression of a competent authority, sacrificed, while the rentals for upper, and, consequently, more desirable, lofts in new buildings have declined about 12 cents per square foot in the better part of the avenue, namely, between Canal and 14th streets. The pregnant fact remains, however, that, although rents have fallen, land has appreciated in value. This fact, taken in connection with the circumstance that very little property is offered for sale, undoubtedly means that Broadway realty is in strong hands, that modern improvements bring a fair return, and that

owners of antiquated buildings are waiting for a favorable opportunity to improve.

Since 1879 the extension northward of the business section of the city has been steady and persistent. Of course, what remained of a private character in 14th street has been utterly routed out, 23d street, from Third to Seventh avenue, has been completely transformed for the purposes of retail trade, and 42d street has been invaded by the shopkeeper. Sixth avenue, between 14th and 23d streets, has assumed a position second only to Broadway as a shopping centre. Fifth avenue, between the same parallels, is filling up with office buildings and the stores of leading publishing houses. Between 23d and 42d, or rather, perhaps, 59th street, in the centrally located avenues, the typical three and four-story private dwellings are rapidly being displaced by taller structures of a semi-public nature—store and office buildings, studios, hotels, theatres, clubs, and high-class apartment houses. During the last administration large sums of money were expended on public improvements in this central district—14th to 59th street—particularly in Fifth avenue. Furthermore, the change from horse power to the underground electric trolley that is taking place on all the principal surface lines of the island has a tendency to facilitate local travel within the district.

These several circumstances have given a marked upward turn to real estate values, as may be seen at a glance by reference to the tax lists for 1898. During the past year the appreciation in the value of land, apart from buildings, in the tax section bounded by 14th and 40th streets, the Hudson and East rivers, was some \$11,240,000. In the tax section bounded by 40th and 96th street, Sixth avenue, Central Park West and the Hudson River, it was some \$9,470,000. In none of the remaining seven tax sections into which the island is divided did the appreciation exceed \$3,510,000.

MICHAEL A. MIKKELSEN.

APPENDIX.



IN the foregoing pages reference has been made to a number of the noted auction sales of Manhattan real estate. Some of these deserve to be given in full because, by the partition and distribution among the public of large parcels of vacant land, they gave the first impetus to building improvement in new localities; others because, by a similar partition of extensive holdings of antiquated properties, they encouraged the replacement of old with larger buildings, which constitutes the most striking feature of real estate activity in the rapidly expanding mercantile section of the island. All auction sales are important as matters of record, inasmuch as they furnish a surer index to prices than the values given in private sales, which are not infrequently purposely inflated to affect the market. The selection which follows has been made with a view to illustrating land values in certain localities, now prominent on the market, during what may be termed their formative periods.

The three Dyckman sales (1869-71) inaugurated the movement which has resulted in the breaking up of the great estates in the upper part of the island, many of which dated from Colonial times. The Dyckman sales took place during the speculative period which came to an end in 1873, and the property then sold brought higher prices than could probably be obtained at the present day. However, the distribution of this estate, which lay in the neighborhood of 200th street, has not, owing to its extreme northerly location, been productive of such marked results in the way of building improvements as have attended sales of parcels farther south.

The Carman Sale.

The next important sale that we have to notice is the Carman sale. The Carman property, comprising 257 lots, was originally disposed of at auction March 25, 1880. Owing to legal difficulties, however, the buyers refused to take title, and the lots were again put under the hammer April 6, 1881. In the former year the real estate market was decidedly speculative, being buoyed up by the returning tide of prosperity; in the latter year it is evident that capital had come to look for quicker profits than could be obtained from outlying unimproved lots, as may be seen from the subjoined table:

	Prices. 1880.	Prices. 1881.
Lots on new av, north of 148th st.....	\$1,625	\$2,365
10 lots on new av north of 153d st.....	4,675	4,375
1 lot on new av north of 154th st.....	850	825
13 lots on 175th st, bet 10th and 11th avs.....	9,850	8,365
1 lot on new av below 175th st.....	600	500
2 lots on 151st st, west of Boulevard.....	2,400	2,050
2 lots on 152d st, 525 west of Boulevard.....	2,400	2,650
Riverside House and lots.....	21,000	12,500
Lots, being 101.11 on 12th av, bet 152d and 153d sts, with water front on Hudson River of 90.11.....	2,500	1,100
Lot No. 22, being 104.11 on 12th av, bet 152d and 153d sts, with water front on Hudson River of 99.11.....	2,500	1,100
14 city lots on a new av south of High Bridge park....	3,500	3,920
5½ city lots on a new av north of High Bridge park....	2,530	2,338
Mansion House, including 16½ city lots on a new av north of High Bridge park	12,778	9,900
6½ city lots, on a new av north of High Bridge park....	1,713	1,300
4¾ city lots, known as No. 183 in catalogue, on a new av north of High Bridge park.....	1,065	1,065
5¼ city lots, known as No. 183, on a new av north of High Bridge park	1,575	1,171
7 city lots, No. 185, on a new av north of High Bridge park	2,660	1,760
7¼ city lots, known in catalogue as No. 186, on a new av north of High Bridge park.....	2,900	2,537
8¾ city lots, known as No. 189, on a new av north of High Bridge park	2,397	2,100
10 city lots, known in catalogue as No. 190, and lying north of High Bridge park.....	5,000	2,600
9 1-6 city lots, known as No. 189, north of High Bridge park	4,616	2,313
6¾ city lots, No. 188, north of High Bridge park.....	2,365	1,385
10 city lots on 10th av, south of Boulevard.....	11,500	8,500
Total	\$103,649	\$67,809
Decrease in price	\$35,840	

The Mutual Life Insurance Co.'s Sale.

The Mutual Life Insurance Company's sale comprised nine parcels of improved property and 227 vacant lots, and was held April 20, 1880, aggregating \$663,455. The prices obtained were the highest paid at any time since 1874, although 50 per cent. lower than the highest prices obtained for similar real estate before the panic of 1873. The prices obtained were certainly more than double the amount which could have been secured in 1874. Lots which were sold for \$4,000 would not have brought more than \$1,200 or \$1,500 in 1874.

Boulevard, s e cor 69th st, 28.6 $\frac{3}{4}$ x136.8 $\frac{1}{2}$ x25.5x123.8, to E. Livingston.	\$13,000
Boulevard, e s, adj above, 56.2x123.8x50x97.11, to E. Livingston....	18,000
Boulevard, e s, adj above, 28.1x122.11x25x110.1, to E. Livingston....	9,000
Boulevard, n w cor 139th st, 99.11x75, stable, to M. B. Baer.....	11,000
Boulevard, s w cor 140th st, 99.11x75, frame dwelling, to Stephen B. French	17,600
Delmonico pl (Grove av), e s, 150 n Cliff st, 100x100, to J. L. Lindsay att'y)	1,600
51st st (No. 217), n s, 200 e 3d av, 20x100.5, three-story brick house, to James Hartigan	7,000
66th st, s s, 325 e 10th av, 25x100.5, to F. Yoran.....	2,900
66th st, n s, 125 e 10th av, 150x100.5, to Samuel Adams.....	23,100
69th st, s s, 136.8 e Boulevard, 25x75.5, to E. Livingston.....	5,100
76th st, n s, 100 e 10th av, 100x102.2, to F. P. Woodbury.....	15,200
76th st, n s, 200 e 10th av, 50x102.2, to John P. Huggins.....	8,000
77th st, s s, 100 e 10th av, 150x102.2, to James McCloud.....	15,300
83d st (No. 166), s s, 149.8 w 3d av, 15.7x102.2, three-story brick house, to Man & Parsons	6,650
95th st, n s, 100 e 10th av, 50x100.8.....	11,200
96th st, s s, 100 e 10th av, 50x100.8.....	
to L. Friedman	24,800
95th st, n s, 150 e 10th av, 100x100.8.....	
96th st, s s, 150 e 10th av, 100x100.8.....	26,800
to Samuel Adams	
95th st, n s, 250 e 10th av, 100x100.8.....	13,800
96th st, s s, 250 e 10th av, 100x100.8.....	
to Samuel Adams	13,700
95th st, n s, 350 e 10th av, 50x100.8.....	
96th st, s s, 350 e 10th av, 50x100.8.....	13,500
to J. M. Lichtenhauer.....	
95th st, n s, 400 e 10th av, 50x100.8.....	13,200
96th st, s s, 400 e 10th av, 50x100.8.....	
to A. M. Lyons	13,100
95th st, n s, 450 e 10th av, 50x100.8.....	
96th st, s s, 450 e 10th av, 50x100.8.....	12,600
to R. W. Cameron	
95th st, n s, 500 e 10th av, 50x100.8.....	10,800
96th st, s s, 500 e 10th av, 50x100.8.....	
to Jas. D. Lynch	3,450
95th st, n s, 550 e 10th av, 50x100.8.....	
96th st, s s, 550 e 10th av, 50x100.8.....	3,350
to H. Babcock	
95th st, n s, 600 e 10th av, 50x100.8.....	3,450
96th st, s s, 600 e 10th av, 50x100.8.....	
to R. W. Cameron.....	3,350
103d st, s s, 100 w 10th av, 163.11x78x152.9x80.1, to R. W. Cameron.	
121st st (No. 508), s s, 123 e Av A, 17x80, three-story brick house, to Michael Hicks	3,450
121st st, s s, adj above, 17x80, similar house, to John O'Brien....	3,350

121st st, s s, adj above, 17x80, similar house, to J. L. Perley.....	3,500
121st st, s s, adj above, 17x80, similar house, to C. Saulinger.....	3,350
121st st, s s, adj above, 17x80, similar house, to E. A. Parker.....	3,300
123d st, s s, 100 w 8th av, 52.5x85.4x98.2, to R. H. L. Townsend....	5,700
136th st, s e cor New av, 100x103.1x104.8x133.11, to A. M. Lyon.....	3,440
136th st, s s, 100 e New av, 218x133.11x189.1x abt 187.10, to R. W. Cameron	8,000
136th st, n e cor New av, 100x99.11, to Brian McKinney.....	3,120
136th st, n s, 100 e New av, 100x195.3x104.8x164.5, to A. Lustig..	3,680
136th st, n s, 200 e New av, 75x164.5x78.6x141.5, to A. M. Waters..	2,250
136th st, n s, 275 e New av, 67.6x141.5x110.11x115, to A. M. Waters..	2,580
136th st, s w cor New av, 100x80x104.8x49.2, to James Plunkett....	1,840
136th st, s s, 100 w New av, 159.7x49.2x167.1, to same.....	1,000
136th st, n w cor New av, 100x99.11.....	
137th st, s w cor New av, 100x99.11.....	
to E. J. King.....	5,760
136th st, n s, 100 w New av, 50x99.11.....	
137th st, s s, 100 w New av, 50x99.11.....	
to B. McKinney.....	2,800
136th st, n s, 150 w New av, 50x99.11.....	
137th st, s s, 150 w New av, 50x99.11.....	
to T. C. Higgins.....	2,800
136th st, n s, 200 w New av, 50x99.11.....	
137th st, s s, 200 w New av, 50x99.11.....	
to H. P. Gray	3,040
137th st, s e cor New av, 100.8x99.11x100x95.4, to B. McKinney....	2,800
137th st, n s, 100 e 10th av, 206.3x63.5x215.10, to F. Yoran.....	2,520
140th st, s s, 325 w Boulevard, 125x99.11, three-story frame dwelling, to Carl H. Schultz	17,000
140th st, s s, adj, 100x99.11, brick stables, to same.....	6,200
140th st, s s, adj, 191x99.11, to same.....	8,400
158th st, s s, 100 e 10th av, 50x100, stable, to H. P. Gray.....	2,950
3d av, n e cor 106th st, 25.2x100, to Jacob Bookman.....	7,700
3d av, e s, 25.2 n 106th st, 50.6x110, to R. H. L. Townsend.....	10,200
5th av (No. 1308), e s, 69.6 s 86th st, 22x100, four-story Nova Scotia stone front dwell'g, to A. Rumrill	36,750
5th av, e s, 50.5 n 100th st, 50x100, to H. McAleenan.....	27,050
5th av, e s, 75.8 n 115th st, 75.9x100, irreg., to H. McAleenan.....	18,825
8th av, n w cor 122d st, 50.11x28.6x59.9x59.9, to E. J. King.....	6,600
8th av, s w cor 123d st, 50.11x100, to R. H. L. Townsend.....	10,200
8th av, w s, adj, 50x59.9x58.8x90.5, to same.....	8,000
8th av, w s, adj, 50x100x52.8x90.5, to J. M. Pinkney.....	4,650
10th av, e s, 25.1 s 67th st, 25.1x100, to R. H. L. Townsend.....	2,950
10th av, e s, 97.8 n 73d st, 80.8x100, to John D. Crimmins.....	16,000
10th av, n e cor 76th st, 27.2x10, to F. Yoran.....	5,100
10th av, e s, adj above, 75x100, to A. J. Meyer.....	10,200
10th av, e s, adj above, 75x100, to P. J. O'Donohue	9,000
10th av, s e cor 77th st, 27.2x100, to Thomas C. Higgins.....	4,150
10th av, e s, 25.2 n 95th st, 75.6x100, to P. J. O'Donohue.....	9,600
10th av, n e cor 95th st, 25.2x100, to P. J. O'Donohue	3,900
10th av, s e cor 96th st, 25.2x100, to J. D. Crimmins.....	5,350
10th av, e s, 50.4 25.2 s 96th st, 25.2x100, to J. D. Crimmins.....	3,300
10th av, e s, 50.4 s 96th st, 50.4x100, to D. Christie.....	6,575
10th av, s w cor 103d st, 22x100, to B. C. Thornell	3,250
10th av, w s, adj above, 20x100, to H. P. Gray.....	2,175
10th av, w s, adj above, 41.2x100, to same.....	4,050
10th av, n e cor 136th st, 99.11x100, to H. Babcock	6,200
10th av, s e cor 137th st, 99.11x100, to S. B. Waterman.....	6,600
10th av, n e cor 137th st, 94.3x100x55x104.7, to E. J. King.....	6,000

The Jumel Sale.

At the famous Jumel sale 1,058 city lots were disposed of for \$544,-830. The sale began on May 31, 1882. Despite the general impression that the prices obtained were good, the sale was stopped. It was concluded on November 15, 16, 17 and 18, when prices ruled 30 per cent. lower than in May. On April 3, 1888, 79 lots were auctioned which had been bought by the Jumel heirs or by persons who had failed to complete their purchases, and which consequently remained in possession of the estate. The 79 lots brought a total of \$250,752 in 1888, as against \$187,505 in 1882.

May 31, 1882.

Broadway, n e cor Liberty st, 25.4x85.2.....	
Liberty st, n s, 85.2 e Broadway, 25.4x47.7x irreg.....	
Nos. 150 Broadway and 71 and 73 Liberty st, five and six-story brick office buildings.....	
Williamsburg City Fire Ins. Co. (Rent \$21,970).....	356,000
Jumel terrace, 160th and 161st st and Public Drive—the block, 359.3 on Jumel terrace, x173.3 on 160th st, x216.8 on 161st st, x irreg., mansion. Nelson Chase	45,000
Jumel terrace, n w cor 160th st, 25x80. F. Moriarty	1,200
Jumel terrace, w s, 25 n 160th st, 25x84.8. F. Moriarty.....	950
Jumel terrace, w s, 50 n 160th st, 25x89.4x25x94. Chas. Van Cott..	900
Jumel terrace, w s, 75 n 160th st, 100x94x100x100. John D. Crimmins	3,600
Jumel terrace, w s, 134.3 s 161st st, 50x100. Pat. Merrigan.....	1,750
Jumel terrace, w s, 84.3 s 161st st, 50x100. Geo. Fisher	1,700
Jumel terrace, w s, 34.3 s 161st st, 50x100. John J. Conlon.....	1,800
Jumel terrace, s w cor 160th st, 34.3x100. John J. Conlon.....	1,650
Kingsbridge road, s e cor 167th st, 31.5x89.4x30x79.9. S. J. Huggins.	1,010
Kingsbridge road, e s, adj, 26.2x79.9x25x71.11. S. J. Huggins.....	680
Kingsbridge road, e s, adj, 26.2x71.11x25x64.1. S. J. Huggins.....	650
Kingsbridge road, n e cor 167th st, 27.10x106.5x26.7x98.1 on 167th st. V. K. Stevenson, Jr	1,050
Kingsbridge road, e s, adj, 26.2x114.3x25x106.5. Chas. Connelly....	875
Kingsbridge road, e s, adj, 26.2x97.2x25x114.3. Merrigan.....	785
Kingsbridge road, e s, 78.7 s 168th st, 25x97.2x25x105. P. Brunner.....	685
Kingsbridge road, e s, 52.4 s 168th st, 26.2x80x25x87.10. P. Brunner.	685
Kingsbridge road, e s, 26.2 s 168th st, 26.2x87.10x25x87.10. P. Brunner	815
Kingsbridge road, s e cor 168th st, 26.2x95.9x25x103.7 on 16th st. P. Brunner	1,245
Kingsbridge road, n e cor 168th st, 26.2x86.7x25x78.8. F. T. Van Buren	1,300
Kingsbridge road, e s, adj, 79x110.2x75x86.7. F. T. Van Buren.....	2,475
Kingsbridge road, e s, 57.7 s 169th st, 26.2x85.2x—x93. Scott & Myers	820
Kingsbridge road, e s, 31.5 s 169th st, 26.2x93x—x100.11. Scott & Myers	850
Kingsbridge road, s e cor 169th st, 31.5x100.11x—x110.3 on 169th st. Scott & Myers	1,310
Public drive, n w cor 159th st, 25.1x107.8x25x105.1. B. P. Fairchild.	2,125
Public drive, w s, adj, 75.2x105.1x75x104.10. B. P. Fairchild.....	4,725
Public drive, s w cor 160th st, 27x132.9x25x122.6. B. P. Fairchild..	2,200

Public drive, w s, 27 s 160th st, 77.2x104.10x75x122.6. B. P. Fairchild	4,425
Public drive, n w cor 162d st, 25.1x— J. H. Sutphen	1,300
Public drive, w s, adj, 100.6x— J. H. Sutphen	3,850
Public drive, w s, 25.1 s 163d st, 75.3x— J. H. Sutphen.....	3,130
Public drive, s w cor 163d st, 25.1x— J. H. Sutphen.....	3,130
Public drive, n w cor 163d st, 26.3x149.11x25x141.10. Francis P. Knapp	1,500
Public drive, w s, adj, 18.6x141.10x25x132.6. G. W. Mead.....	900
Public drive, w s, adj, 26.8x132.6x25x123. Scott & Myers.....	720
Public drive, w s, adj, 26.8x123x25x113.7. Scott & Myers.....	670
Public drive, w s, adj, 26.8x113.7x25x104.2. G. W. Mead.....	525
Public drive, s w cor 164th st, 26.6x91.6x24.10x100.11. Pat. Fox....	875
Public drive, w s, adj, 80.1x100.11x75x129.2. Pat. Fox.....	1,950
159th st, n s, 100 e St. Nicholas av, 100x100. B. P. Fairchild.....	4,600
160th st, s s, 112.4 e St. Nicholas av, 25x100. John Callahan.....	1,575
160th st, s s, adj, 100x100. B. P. Fairchild.....	4,800
161st st, s s, 172.7 e St. Nicholas av, 50x127.4. John Callahan.....	2,225
162d st, n s, 100 e St. Nicholas av, 25x112.6. J. Knowles.....	1,225
162d st, n s, 125 e St. Nicholas av, 50x112.6. Wm. Dipperman.....	2,050
162d st, n s, adj, 75x112.6. Wm. Dipperman.....	2,370
162d st, n s, adj, 50x112.6. Douglas Campbell.....	960
162d st, n s, adj, 175x112.6. J. H. Sutphen.....	3,175
162d st, n s, adj, 50x112.6. J. H. Sutphen.....	1,300
163d st, s s, 100 e St. Nicholas av, 25x112.6. J. F. Cherry.....	1,050
163d st, s s, adj, 175x112.6. B. P. Fairchild.....	5,460
163d st, s s, adj, 100x112.6. Pat. Fox.....	2,480
163d st, s s, adj, 25x112.6. Chas. F. Partridge.....	690
163d st, s s, 425 e St. Nicholas av, 100x112.6. J. H. Sutphen.....	2,990
163d st, n s, 100 e 10th av, 25x112.6. M. B. Brown.....	1,040
163d st, n s, adj, 25x112.6. Louise Isabeau.....	825
163d st, n s, adj, 25x112.6. Louise Isabeau.....	710
163d st, n s, adj, 100x112.6. Douglass Campbell.....	2,440
163d st, n s, adj, 75x112.6. Philip Feuring.....	1,650
168th st, s s, 100 w Audubon av, 25x100. F. T. Van Buren.....	525
168th st, s s, 125 w Audubon av, 25x75. F. T. Van Buren.....	525
169th st, s s, 100 w Audubon av, 50x85. Alfred Roe.....	1,000
169th st, s s, 150 w Audubon av, 50x85. D. Campbell.....	960
169th st, s s, 200 w Audubon av, 25x85. Scott & Myers.....	500
Audubon av, s w cor 166th st, 25x90.4 to Kingsbridge road, x29.4x75.	
Joseph Brennan	1,015
Audubon av, w s, adj, 30.6x75x25.6x52.3. Jos. Brennan.....	905
Audubon av, n w cor 166th st, 25x122.7x26.2x130.6. Pat. Fox.....	1,675
Audubon av, w s, adj, 75x130.6x78.7x154.1. Pat. Fox.....	2,925
Audubon av, w s, adj, 50x90. B. P. Fairchild.....	1,300
Audubon av, s w cor 167th st, 30x90. S. J. Huggins.....	910
Audubon av, n w cor 167th st, 26.7x100. Pat. Milligan.....	850
Audubon av, w s, adj, 50x100. P. Milligan.....	1,120
Audubon av, w s, 50 s 168th st, 50x100. Matthew Cox.....	1,080
Audubon av, w s, 25 s 168th st, 25x100. W. Callahan.....	550
Audubon av, s w cor 168th st, 25x100. D. Campbell.....	835
Audubon av, n w cor 168th st, 25x100. Alfred Roe.....	800
Audubon av, w s, adj, 25x100. Alfred Roe.....	525
Audubon av, w s, adj, 25x100. Michael Smith.....	490
Audubon av, w s, adj, 50x100. D. Campbell.....	1,060
Audubon av, w s, 25 s 169th st, 25x100. Alfred Roe.....	500
Audubon av, s w cor 169th st, 30x100. Alfred Roe.....	900
St. Nicholas av, n e cor 159th st, 25.5x100x25x104.8. M. A. J. Lynch.	3,000
St. Nicholas av, e s, adj, 76.3x104.8x75x118.8. L. J. Phillips.....	4,875
St. Nicholas av, s e cor 160th st, 25.5x112.4x25x107.8. John Callahan.	2,500
St. Nicholas av, e s, adj, 25.5x107.8x25x103. John Callahan.....	1,675
St. Nicholas av, e s, adj, 50.10x93.8x50x103. John Callahan.....	3,150
St. Nicholas av, n e cor 160th st, 25.5x100. L. J. Phillips.....	2,050
St. Nicholas av, e s, 25.5 n 160th st, 25.5x100. L. J. Phillips.....	1,600

St. Nicholas av, e s, 50.10 n 160th st, 25.5x100. J J Watson.....	1,525
St. Nicholas av, e s, 76.3 n 160th st, 101.8x112.8x100x98.8. J. D. Crimmins	5,650
St. Nicholas av, e s, 177.11 n 160th st, 25.5x117.4x25x112.8. H. Sonn.	1,475
St. Nicholas av, e s, 203.4 n 160th st, 32.6x123.4x—x117.4. W. J. Barnes	1,875
St. Nicholas av, e s, 98 s 161st st, 63.4x73.4x—x112.3. H. Sonn.....	2,850
St. Nicholas av, e s, 66.4 s 161st st, 31.8x112.3x—x131.9. John Callahan	1,800
St. Nicholas av, e s, 34.8 s 161st st, 31.8x131.9x—x151.3. John Callahan	2,300
St. Nicholas av, s e cor 161st st, 34.8x151.3x—x172.7 on 161st st. John Callahan	4,000
St. Nicholas av, n e cor 162d st, 25x100. Henry J. Carr.....	3,750
St. Nicholas av, e s, 25 n 162d st, 50x100. Henry J. Carr.....	3,900
St. Nicholas av, e s, 75 n 162d st, 50x100. L. J. Phillips.....	3,350
St. Nicholas av, e s, 50 s 163d st, 50x100. Patrick Fox.....	3,400
St. Nicholas av, e s, 25 s 163d st, 25x100. P. Fox.....	1,975
St. Nicholas av, s e cor 163d st, 25x100. P. Fox.....	2,800
10th av, n e cor 163d st, 25x100. Martin B. Brown.....	3,050
10th av, e s, adj, 25x100. M. B. Brown.....	1,800
10th av, e s, adj, 50x100. M. B. Brown.....	3,200
10th av, s e cor 164th st, 24.10x100. M. B. Brown.....	2,650
10th av, e s, adj, 25x100. M. B. Brown.....	1,500
10th av, e s, adj, 75x100. M. B. Brown.....	4,530
35½ city lots, with water rights on Harlem River, north of line of 165th st. Charles A. Appleby.....	8,165
35 9-10 city lots, with water rights on Harlem River, south of line of 167th st. Charles A. Appleby.....	8,975

November 15-18, 1882.

Edgecombe road, n w cor 159th st, 25.7x84x25x89.9. V. K. Stevenson. \$1,200	
Edgecombe road, w s, adj, 76.11x106.11x75x89.9. V. K. Stevenson..	2,475
Edgecombe road, w s, adj, 76.11x124.2x75x106.11. V. K. Stevenson..	2,550
Edgecombe road, s w cor 160th st, 25.7x129.11x25x124.2. V. K. Stevenson	1,175
Edgecombe road, n w cor 162d st, 25.4x46.10x25x42.6. — Sutphen.	500
Edgecombe road, w s, adj, 76.1x29.7x75x42.6. — Sutphen.....	1,080
Edgecombe road, s w cor 163d st, 126.8x7.11x125x29.7. — Sutphen.	1,750
Edgecombe road, n w cor 163d st, 25.4x68.11x25x64.7. P. G. Duffy.	730
Edgecombe road, w s, adj, 101.4x47.4x100x64.7. Alfred Roe.....	975
Edgecombe road, w s, 25.2 s 164th st, 76x59.4x75x72.4. V. K. Stevenson	1,290
Edgecombe av, s w cor 164th st, 25.2x55x24.10x59.4. V. K. Stevenson.	500
Edgecombe road, n w cor 164th st, 25.4x115.3x25x119.6. G. F. Gantz.	785
Edgecombe road, w s, adj, 4 lots. G. F. Gantz.....	1,800
Edgecombe road, s w cor 166th st, 25.2x90.4x25x93.5. H. Jumel....	540
Edgecombe road, w s, adj, 4 lots. H. Jumel.....	2,400
Edgecombe road, n w cor 166th st, 25.1x109.11. L. Toplitz.....	500
Edgecombe road, s w cor 167th st, 22.5x129.7x92.11x109.11. L. Toplitz.	650
Edgecombe road, w s, 219.11 n 167th st, 4 lots. John M. Jones.....	800
Edgecombe road, w s, adj, 4 lots. G. F. Gantz.....	1,020
Edgecombe road, w s, adj, 3 lots. G. F. Gantz.....	750
Edgecombe road, w s, adj, 2 lots. W. A. Cameron.....	490
Edgecombe road, e s, n 167th st, 2 lots. August Sbarbard.....	570
Edgecombe road, e s, adj above on south, 4 lots. J. J. Mahoney....	1,080
Edgecombe road, e s, adj above on south, 4 lots. J. J. Mahoney....	1,000
Edgecombe road, e s, adj above on south, 4 lots. S. Chester.....	1,480
Edgecombe road, s w Jumel pl, 130.4x63.8x100x147.3. — Maclin..	2,480
Edgecombe road, e s, strip 4.9 wide, extending from 169th to 162d st, x—x87x to Croton Aqueduct, x irreg. Nelson Chase.....	6,600
Edgecombe road, e s, adj above on north, 1 lot. John McCallum..	290
Edgecombe road, e s, adj above on north, 5 lots. John McCallum....	1,050
Edgecombe road, e s, adj above on north, 5 lots. John McCallum....	1,110
Edgecombe road, e s, opposite 163d st, 2 lots. C. F. Partridge.....	700

Edgecombe road, e s, adj above on north, 100x124.6 to Croton Aqueduct. John Ruhl	1,060
Edgecombe road, e s, adj above on north, 100x126.4 to Croton Aqueduct. T. B. McKenna.....	1,000
Edgecombe road, e s, nearly opposite 164th st, 100x124.6 to Croton Aqueduct. G. F. Gantz.....	960
Edgecombe road, e s, north 164th st, adj above, 109.4x130.8x60.2x124.6. G. F. Lespinasse	960
Jumel pl, e s, 113.8 s Edgecombe road, 75x122.2 to Edgecombe road, x—x168.6. Mr. Presstman	990
Jumel pl, s e cor Edgecombe road, 113.8 on Jumel pl, x — on Edgecombe road, x 122.2. John Brown	1,110
Jumel pl, n w cor 167th st, 91.3x119.3x6.2x100. J. Gillies.....	820
Jumel pl, w s, adj, 75x100. J. Gillies.....	1,020
Jumel pl, w s, adj, 75x100. Margaret Quinlin.....	750
Jumel pl, w s, adj, 100x100. J. R. Dorsett.....	860
Jumel pl, w s, adj, 100x100. J. R. Dorsett.....	940
Jumel pl, w s, adj, 100x100. J. R. Brown.....	920
Jumel pl, w s, 63.9 s Edgecombe road, 50x100. W. H. Cochrane....	600
Jumel pl, e s, 30.4 n 167th st, 100x176.10x104.7 to Edgecombe road, x147.6. G. F. Gantz	1,000
Jumel pl, e s, 130.4 n 167th st, 100x90. J. M. Jones.....	720
Jumel pl, e s, adj, 100x90. P. Fox.....	720
Jumel pl, e s, adj, 75x90. Thos. Curran.....	525
Jumel pl, e s, adj, 50x90. Jas. De Vanney.....	400
Kingsbridge road, 174th st and New av, gore, 23x66.8x70.7. Thos. Walsh	400
Kingsbridge road, n e cor 171st st, 100.6x94.9x100x61.9. A. Foise....	1,620
Kingsbridge road, s e cor 172d st, 100.6x84.9x100x117.8. G. F. Gantz.	2,000
Kingsbridge road, n e cor 172d st, 100x121.2x94.6x88.6. V. K. Stevenson, Jr.	1,240
Kingsbridge road, s e cor 173d st, 25.10x125. E. Crowley.....	830
Kingsbridge road, e s, adj, 79.4x96.2x75x122.4. B. Fellman.....	1,080
159th st, n s, 100 e St. Nicholas av, 100x100. V. K. Stevenson.....	3,250
160th st, s s, 137.4 e St. Nicholas av, 100x100. V. K. Stevenson.....	3,800
163d st, s s, 100 e 10th av, 100x112.6. H. Jumel.....	2,800
163d st, s s, 200 e 10th av, 100x112.6. Alfred Roe.....	1,600
163d st, n s, 68.11 w Edgecombe road, 25x125.....	
163d st, n s, adj, 25x112.6.....	1,280
Jas. McCloud	
163d st, n s, adj, 50x112.6. Tim. Donigan.....	1,200
164th st, s s, 100 e 10th av, 50x112.4. William Lalor.....	1,280
164th st, s s, adj, 50x112.4. M. Lichtenauer.....	1,330
164th st, s s, 200 e 10th av, 75x112.4. H. Jumel.....	1,980
164th st, s s, 275 e 10th av, 100x112.4. J. Matthews.....	2,000
164th st, n s, 100 e 10th av, 50x156.7x50.4x163.5. H. Jumel.....	1,500
164th st, n s, 150 e 10th av, 75x142.11x75.7x156.7. H. Jumel.....	2,490
164th st, n s, 225 e 10th av, 75x132.8x75.7x142.11. H. Jumel.....	2,250
164th st, n s, 300 e 10th av, 25x129.3x25.2x132.8. H. Jumel.....	570
166th st, s s, 90.4 w Edgecombe road 25x121x irreg. Mr. Caryl.....	570
166th st, s s, adj, 3 lots. H. Jumel.....	1,650
166th st, s s, adj, 4 lots. Frank Lober.....	2,440
166th st, s s, 95 e Audubon av, 50x92.9x51.4x84.5. Ellen Barry....	930
166th st, s s, adj, 100x109.3x102.8x92.9. James Von Bien.....	1,910
166th st, n s, 100 w 10th av, 25x95. T. Fitzgerald.....	620
166th st, n s, 109.11 w Edgecombe road, 75x166.9 to 167th st, x89.6x117.11. L. Toplitz.....	1,575
166th st, n s, adj, 100x100. W. H. Morrell.....	1,800
166th st, n s, 95 e Audubon av, 50x95. Tim. Donigan.....	970
166th st, n s, adj, 100x95. H. Jumel.....	1,960
167th st, n s, extending from Jumel pl to Edgecombe road, 153 on 167th st, x80.4 on Jumel pl, x147.6x115.7 on Edgecombe road. Mr. Tresstman	630
167th st, s s, 119.3 s e 10th av, 4 lots. W. H. Morrell.....	1,780

167th st, s s, 100 w 10th av, 25x85. C. Schultz.....	450
167th st, s s, 125 w 10th av, 100x85. H. Jumel.....	2,000
167th st, s s, adj, 50x85. Ellen O'Hare.....	990
167th st, n s, 95 e Audubon av, 100x81.7. H. Jumel.....	1,640
167th st, n s, adj, 75x81.7. P. V. Bussing.....	1,335
168th st, s s, 100 w 10th av, 100x95. A. J. Robinson.....	2,120
168th st, s s, adj, 75x95. John and Herbert McCallum.....	1,530
168th st, n s, 100 w 10th av, 75x95. H. Jumel.....	1,680
168th st, n s, adj, 100x95. L. Sinsheimer.....	2,040
169th st, s s, 100 w 10th av, 100x85. Isaac Cahn.....	2,000
169th st, s s, adj, 75x85. L. Sinsheimer.....	1,425
169th st, n s, 100 w 10th av, 100x81.7. Mr. Henry.....	2,200
169th st, n s, adj, 75x81.7. Thos. Fenton.....	1,650
169th st, n s, 100 w Audubon av, 75x81.7. R. B. Saul.....	720
169th st, n s, adj, 75x81.7. W. Hahn.....	750
170th st, s s, 100 w 10th av, 100x95. Mr. Henry.....	2,680
170th st, s s, adj, 75x95. H. Jumel.....	1,890
170th st, ns, 100 w 10th av, 100x100. Mr. Henry.....	3,000
170th st, n s, adj, 75x100. P. Fox.....	1,890
170th st, s s, 100 e 11th av, 75x95. Alfred Roe.....	675
170th st, s s, adj, 75x95. H. Jumel.....	870
170th st, n s, 100 e 11th av, 75x100. A. Roe.....	1,320
170th st, n s, 100 w Audubon av, 75x100. P. Fox.....	1,380
171st st, s s, 100 w 10th av, 100x95. Mr. Henry.....	2,440
171st st, s s, adj, 75x95. H. Jumel.....	1,575
171st st, n s, 100 w 10th av, 25x95. A. Roe.....	325
171st st, n s, adj, 100x95. H. Jumel.....	1,100
171st st, n s, adj, 50x95. H. Jumel.....	400
171st st, s s, 100 e 11th av, 75x95. V. K. Stevenson, Jr.....	1,050
171st st, s s, 175 e 11th av, 75x95. V. K. Stevenson, Jr.....	960
171st st, n s, 100 e 11th av, 75x95. P. V. Bussing.....	1,050
171st st, n s, 175 e 11th av, 75x95. Th. Bryn.....	1,110
172d st, s s, 100 e 11th av, 75x95. V. Spader.....	1,170
172d st, s s, 175 e 11th av, 75x95. J. R. Dorsett.....	1,095
172d st, s s, 100 w 11th av, 50x94.6. G. W. Monnell.....	630
172d st, s s, 100 w 10th av, 25x95. Geo. Fisher.....	500
172d st, s s, adj, 75x95. Ellen O'Hare.....	1,125
172d st, s s, adj, 75x95. H. Jumel.....	600
172d st, n s, 100 w 10th av, 100x94.6. J. J. Mahoney.....	1,760
172d st, n s, 100 e Audubon av, 75x94.6. J. J. Mahoney.....	1,050
172d st, n s, 100 w Audubon av, 75x94.6. A. Foise.....	840
172d st, n s, 100 e 11th av, 75x94.6. L. Sinsheimer.....	870
173d st, s s, 100 w 10th av, 100x100. J. J. Mahoney.....	2,360
173d st, n s, 100 w 10th av, 100x100. Wm. Lalor.....	2,400
173d st, s s, 100 e Audubon av, 75x100. J. J. Mahoney.....	1,650
173d st, n s, 95 e Audubon av, 75x100. W. A. Cameron.....	1,710
173d st, s s, 100 w Audubon av, 75x100. Geo. R. Dean.....	1,290
173d st, s s, 100 e 11th av, 75x100. John Renehan.....	1,800
173d st, n s, 100 e 11th av, 75x100. Pat. Fox.....	870
173d st, n s, 100 w Audubon av, 75x100. B. Fellman.....	840
173d st, n s, 100 w 11th av, 100x100. W. H. Morrell.....	1,240
173d st, s s, 100 w 11th av, 75x100. J. A. Booth.....	915
174th st, s s, 100 w 11th av, 100x100. J. R. Dorsett.....	1,220
174th st, n s, 100 w 11th av, 100x105.7x100.5x96.1. John Whelan.....	1,400
174th st, s s, 100 w Audubon av, 75x100. B. Fellman.....	645
174th st, s s, 100 e 11th av, 75x100. C. Hagemeyer.....	690
174th st, n s, 95 e Audubon av, 275 to 10th av, x1.6x276.3x26.11. G. F. Gantz	1,060
174th st, s s, 100 w 10th av, 100x100. John Renehan.....	1,920
174th st, s s, 95 e Audubon av, 75x100. L. C. Ledgett.....	1,260
174th st, n s, 100 e 11th av, 75x60.7x75.4x67.8. Margaret Quinlan..	1,200
174th st, n s, 100 w Audubon av, 75x60.7x75.4x53.6. J. M. Jones....	840
Audubon av, n w cor 170th st, 25x100. V. K. Stevenson, Jr.....	650
Audubon av, w s, adj, 150x100 P. Fox.....	2,160

Audubon av, s w cor 171st st, 20x100. V. K. Stevenson, Jr.....	435
Audubon av, n w cor 171st st, 20x100. Geo. Dean.....	500
Audubon av, w s, adj, 75x100. Geo. Dean.....	1,080
Audubon av, s w cor 172d st, 20x100. V. Spader.....	500
Audubon av, w s, adj, 75x100. V. Spader.....	1,125
Audubon av, n w cor 172d st, 19.6x100. John Foley.....	450
Audubon av, w s, adj, 75x100. John Carlin.....	810
Audubon av, s w cor 173d st, 25x100. V. K. Stevenson, Jr.....	650
Audubon av, w s, adj, 75x100. V. K. Stevenson, Jr.....	1,200
Audubon av, n w cor 173d st, 25x100. J. R. Brown.....	510
Audubon av, w s, adj, 75x100. J. R. Brown.....	900
Audubon av, s w cor 174th st, 25x100. A. W. Gerloch.....	410
Audubon av, w s, adj, 75x100. L. J. Phillips.....	810
Audubon av, n e cor 172d st, 19.6x95. Dan'l Brady.....	450
Audubon av, e s, adj, 75x95. V. K. Stevenson.....	810
Audubon av, s e cor 173d st, 25x95. J. J. Mahoney.....	710
Audubon av, e s, adj, 75x95. J. J. Mahoney.....	1,200
Audubon av, n e cor 173d st, 25x95. W. A. Cameron.....	730
Audubon av, e s, adj, 75x95. W. A. Cameron.....	1,200
Audubon av, s e cor 174th st, 25x95. L. C. Ledgett.....	510
Audubon av, e s, adj, 75x95. L. C. Ledgett.....	1,230
Audubon av, n e cor 174th st, 36.5x95x26.11x95.4. B. Fellman.....	800
Audubon av, s e cor 166th st, 25x95. T. F. Stafford.....	710
Audubon av, e s, adj, 43.9x96.3x—x95. T. F. Stafford.....	960
Audubon av, n e cor 166th st, 25x95. Thomas Kearney.....	775
Audubon av, e s, adj, 75x95. Thos. Kearney.....	1,590
Audubon av, e s, adj, 50x95. Alfred Roe.....	1,060
Audubon av, s e cor 167th st, 30x95. Alfred Roe.....	720
Audubon av, n e cor 167th st, 26.7x95. H. Jumel.....	640
Audubon av, e s, adj, 100x95. H. Jumel.....	1,800
Audubon av, e s, adj, 25x95. H. Jumel.....	430
Audubon av, s e cor 168th st, 25x95. H. Jumel.....	525
Audubon av, n e cor 168th st, 25x95. Alfred Roe.....	600
Audubon av, e s, adj, 75x95. Alfred Roe.....	1,230
Audubon av, e s, adj, 50x95. L. C. Ledgett.....	950
Audubon av, s e cor 169th st, 30x95. Alfred Roe.....	600
Audubon av, n e cor 169th st, 26.7x95. H. Jumel.....	825
Audubon av, e s, adj, 75x95. Thos. Fenton.....	1,575
Audubon av, e s, adj, 50x95. Samuel Brown.....	1,060
Audubon av, s e cor 170th st, 25x95. P. Fox.....	875
Audubon av, n e cor 170th st, 25x95.7. H. Jumel.....	875
Audubon av, e s, adj, 75x95. T. F. Stafford.....	1,575
Audubon av, e s, adj, 75x95. Alfred Roe.....	1,350
Audubon av, s e cor 171st st, 20x95. Ellen Newman.....	625
Audubon av, n e cor 171st st, 20x95. H. Jumel.....	425
Audubon av, e s, adj, 75x95. H. Jumel.....	825
Audubon av, e s, adj, 75x95. H. Jumel.....	900
Audubon av, s e cor 172d st, 20x95. H. Jumel.....	480
Audubon av, s w cor 170th st, 25x100. H. Jumel.....	570
Audubon av, w s, adj, 50x100. H. Jumel.....	620
Audubon av, w s, adj, 75x100. Patrick Barry.....	1,080
Audubon av, n e cor 169th st, 26.7x100. C. D. Mills.....	610
Audubon av, n w cor 174th st, 25x100. G. F. Gantz.....	380
Audubon av, w s, adj, 19x100.5x28.6x100. G. F. Gantz.....	340
New av, n w cor 173d st, 25x100. J. J. Macklin.....	925
New av, e s, adj, 75x100. L. J. Phillips.....	1,830
New av, n e cor 174th st, 25x100. L. J. Phillips.....	540
New av, e s, adj, 75x100. L. J. Phillips.....	1,485
New av, n w cor 174th st, 25x100. M. Littman.....	500
New av, e s, adj, 90x100.5x80.7x100. M. Littman.....	1,215
St. Nicholas av, n e cor 159th st, 25.5x100x25x104.8. W. Moore.....	2,000
10th av, s e cor Edgecombe road, 100x96.9x77x100. A. Roe.....	5,800
10th av, e s, adj, 100x100. L. J. Phillips.....	2,445
10th av, e s, adj, 200x100. L. J. Phillips.....	7,750

10th av, e s, adj, 100x100. L. J. Phillips.....	2,415
10th av, n e cor 167th st, 361x119.2x76.2x100. J. Gault.....	2,430
10th av, e s, adj, 75x100. L. J. Phillips.....	2,400
10th av, n w cor 172d st, 19.6x100. V. K. Stevenson.....	1,630
10th av, w s, adj, 75x100. V. K. Stevenson.....	3,900
10th av, s w cor 173d st, 25x100. V. K. Stevenson.....	1,850
10th av, w s, adj, 75x100. V. K. Stevenson.....	3,525
10th av, n w cor 173d st, 25x100. A. Roe.....	2,025
10th av, w s, adj, 75x100. A. Roe.....	3,675
10th av, s w cor 174th st, 25x100. J. Wickham.....	1,800
10th av, w s, adj. H. Jumel.....	3,300
10th av, e s, opposite 172d st, contains 41 city lots. James McCloud..	25,215
10th av, s w cor 163d st, 25x100. H. Jumel.....	2,275
10th av, w s, adj, 75x100. H. Jumel.....	4,050
10th av, n e cor 164th st, 25x100. H. Jumel.....	2,300
10th av, e s, adj, 75x100. H. Jumel.....	3,075
10th av, e s, adj, 3 lots. H. Jumel.....	3,000
10th av, s e cor 166th st, 25x100. H. Jumel.....	1,475
10th av, e s, adj, 2 lots. Stephen McCarthy.....	2,500
10th av, n e cor 166th st, 25x100. H. Jumel.....	1,500
10th av, e s, adj, 100x100. H. Jumel.....	4,280
10th av, e s, adj, 100x100. L. Toplitz.....	4,400
10th av, s e cor 167th st, 71x100x6.11x119.3 on 167th st. Jos. McCloud.	2,025
10th av, w s, 25 s 166th st, 75x100. M. B. Brown.....	3,270
10th av, w s, adj, 30x100x13.5x101.4. Louise Isabeau.....	1,000
10th av, n w cor 166th st, 25x100. H. Jumel.....	2,000
10th av, w s, adj, 75x100. C. Schultz.....	3,630
10th av, w s, 30 s 167th st, 50x100. C. Schultz.....	2,260
10th av, s w cor 167th st, 30x100. C. Schultz.....	1,810
10th av, n w cor 167th st, 26.7x100. H. Jumel.....	1,950
10th av, w s, adj, 100x100. H. Jumel.....	4,680
10th av, w s, adj, 25x100. A. J. Robinson.....	1,360
10th av, s w cor 168th st, 25x100. A. J. Robinson.....	1,900
10th av, n w cor 168th st, 25x100. H. Jumel.....	2,075
10th av, w s, adj, 75x100. H. Jumel.....	3,750
10th av, w s, adj, 50x100. H. Jumel.....	2,420
10th av, s w cor 169th st, 30x100. Catharine Kelly.....	2,250
10th av, n w cor 169th st, 26.7x100. Mr. Henry.....	2,000
10th av, w s, adj, 75x100. Mr. Henry.....	3,600
10th av, w s, adj, 50x100. Mr. Henry.....	2,620
10th av, s w cor 170th st, 25x100. Mr. Henry.....	2,000
10th av, n w cor 170th st, 25x100. Mr. Henry.....	2,725
10th av, w s, adj, 75x100. Mr. Henry.....	4,500
10th av, w s, adj, 75x100. Mr. Henry.....	4,950
10th av, s w cor 171st st, 20x100. Mr. Henry.....	2,125
10th av, n w cor 171st st, 20x100. J. A. Page.....	1,425
10th av, w s, adj, 75x100. B. C. Wetmore.....	2,475
10th av, w s, adj, 75x100. Geo. Fisher.....	3,000
10th av, s w cor 172d st, 20x100. Geo. Fisher.....	1,450
11th av, n e cor 169th st, 26.7x100. Geo. F. Gantz.....	1,000
11th av, e s, adj, 75x100. Geo. F. Gantz.....	1,800
11th av, e s, adj, 50x100. Geo. F. Gantz.....	1,000
11th av, n w cor 170th st, 100x77.11 to Kingsbridge road, x111x29.9 on 170th st. J. R. Dorsett.....	2,020
11th av, s w cor 171st st, 95x77.11 to Kingsbridge road, x105.5x123.7 on 171st st. R. B. Saul.....	2,800
11th av, n w cor 171st st, 95x90. A. Foice.....	1,020
11th av, s w cor 172d st, 100x100. L. Sinsheimer.....	1,500
11th av, n e cor 170th st, 25x100. V. K. Stevenson, Jr.....	880
11th av, e s, adj, 75x100. V. K. Stevenson, Jr.....	1,140
11th av, s e cor 171st st, 20x100. V. K. Stevenson, Jr.....	600
11th av, e s, adj, 75x100. P. Feuring.....	1,230
11th av, n e cor 171st st, 20x100. George Dean.....	625
11th av, e s, adj, 75x100. P. V. Bussing.....	1,470

11th av, s e cor 172d st, 25x100. V. Spader.....	640
11th av, e s, adj, 75x100. V. Spader.....	1,500
11th av, n w cor 172d st, 19.6x100. A. Roe.....	430
11th av, w s, adj, 75x100. A. Roe.....	1,080
11th av, s w cor 173d st, 25x100. J. A. Booth.....	555
11th av, w s, adj, 75x100. J. M. Lichtenauer.....	1,170
11th av, s e cor 170th st, 25x100. John Wickham.....	900
11th av, n e cor 172d st, 19.6x100. L. Sinsheimer.....	500
11th av, e s, adj, 75x100. L. Sinsheimer.....	1,050
11th av, s e cor 173d st, 25x100. P. Fox.....	1,030
11th av, e s, adj, 75x100. P. Fox.....	1,800
11th av, n e cor 173d st, 25x100. V. K. Stevenson, Jr.....	835
11th av, e s, adj, 75x100. V. K. Stevenson, Jr.....	1,530
11th av, s e cor 174th st, 25x100. V. K. Stevenson, Jr.....	700
11th av, e s, adj, 75x100. V. K. Stevenson, Jr.....	1,560
11th av, n w cor 173d st, 25x100. Wm. McDonald.....	660
11th av, w s, adj, 75x100. Wm. McDonald.....	1,320
11th av, s w cor 174th st, 25x100. Wm. McDonald.....	700
11th av, w s, adj, 75x100. Wm. McDonald.....	1,350
11th av, n w cor 174th st, 25x100. Mr. Presstman.....	700
11th av, w s, adj, 61.7x100.5x96.1x100. V. K. Stevenson, Jr.....	1,230
11th av, n e cor 174th st, 25x100. V. K. Stevenson, Jr.....	780
11th av, e s, adj, 52.2x100.5x42.8x100. V. K. Stevenson, Jr.....	1,100
Plot containing 35½ city lots on e s Croton Aqueduct, opposite 165th st, and extending to Harlem River. H. Jumel.....	13,840
Plot containing 35 9-10 city lots adj above on the north. H. Jumel..	7,890
Plot containing 38½ city lots adj on the north. H. Jumel.....	8,855
Plot containing 31½ city lots adj on the north. H. Jumel.....	6,615
Plot containing 21 2-10 city lots adj on the north. H. Jumel.....	5,724
Plot containing 47 city lots on e s Croton Aqueduct, at 155th st. H. Jumel	22,090
Plot containg 17½ city lots adj on the north. H. Jumel.....	5,250
Plot containing 18¾ city lots adj on north. H. Jumel.....	5,150
Plot containing 33 9-10 city lots adj on the north. H. Jumel.....	10,170
Plot containing 27½ city lots, bounded by Edgecombe road, Croton Aqueduct and High Bridge Park. Hugh Stevenson.....	7,562
Strip on Edgecombe road, north of 167th st, 197.8 front x 1.9x150x irreg. Eugene Fountain	1,030

The Lorillard Spencer Sale.

The initial sale of the Lorillard Spencer estate was held in the week ending October 20, 1882. Its importance lies in the fact that it shows the prices of improved property at the time when mercantile structures of the type which prevailed anterior to the introduction of steel construction began to replace the older style of buildings. The prices obtained were considered remarkably good.

Bank st, No. 46, s s, 19x91.3, two and one-half-story brick front frame house and one-story brick shop in rear. A. Altmeyer. (Rent, \$180, and subject to life lease)	5,500
Bowery, No. 22, n w s, 25.1x99.6x25x97.8, four-story brick and one-story brick house in rear. Catharine R. Thomas. (Rent, \$2,400, taxes, &c.)	35,100
Bowery, No. 65½, e s, 16.4x80x16.9x79.10, four-story brick house. Geo. Ruckert. (Rent, \$1,535, taxes, &c.)	36,100
Broadway, No. 212, n e cor Fulton st, 29.6x76, five-story brick building, French roof. M. A. J. Lynch. (1-25 part).....	12,000

Broadway, No. 393, n w s, 25x100.5, five-story brick (stone front) house and one-story in rear. L. Spencer. (Rent, \$11,000, taxes, &c.)	115,000
Broadway, No. 448, s e s, 25x120.2x24.10x120.3, five-story brick iron front house. L. Spencer. (Rent, \$6,000, taxes, &c.).....	133,060
Canal st, No 331, n e cor Greene st, 20.1x77.11x20.6x81.9, one three and a-half-story and one three-story brick houses. W. A. Spencer. (Rent, \$3,000)	41,000
Catharine slip, No. 6, w s, 20.3x40, four-story brick dwelling. Isidore Cohen. (Rent, \$1,000)	10,000
Church st, Nos. 61 and 63, e s, 50x50, portion five-story brick warehouse. Estate H. D. Aldrich. (Rent, \$1,500).....	31,800
Church st, No. 234, n w s, 20.2x74.11x19.9x74.11, three-story brick house. W. A. Spencer. (Rent, \$1,800, taxes, &c.).....	33,000
Chambers st, No. 49, n e s, 21.1x151.7 to No. 27 Reade st, x25.6x151.6, five-story brick storehouse. J. I. Campion. (Rent, \$12,000).	132,500
Chatham st, No 41, s s, 20.1x52.7 to North William st, x16.10x41.3 two and one-half-story frame building. Henry Hart. (Rent, \$1,200, taxes, &c.)	22,000
Crosby st, Nos. 13, 15 and 17, s e s, 75x100, three three and one-half-story brick and one four-story brick houses. John Burke. (Leased as long as grass grows and water runs).....	10,000
Division st, Nos. 166 and 166½, n s, 28x102.1x25.2x89.3, two and one-half-story frame house. H. Conkling. (Rent, \$840).....	11,750
Division st, No. 186, n s, 21.6x60.8x19.6x69.3, three-story frame dwelling and one-story frame dwelling on rear. Louis Brulewitch. (Rent, \$300)	6,725
East Broadway, No. 101, s s, 24.11x100x24.3x99.11, three-and-one-half-story brick house. S. Jacobs. (Rent, \$1,000).....	13,350
Eldridge st, No. 52, e s, 20.10x66.6, three-story brick house. H. Conkling. (Rent, \$800)	10,000
Eldridge st, No. 52½, e s, 20.10x66.6, similar building. H. Conkling. (Rent, \$720)	9,325
Elizabeth st, No. 40, s e s, 25x55, two-story frame house and two-story brick shop in rear. Chas. Golden. (Rent, \$360).....	7,500
Elizabeth st, No. 44, e s, 25x100, two-and-one-half-story (brick front) frame house and two-story brick shop. Charles Golden. (Rent, \$420)	13,675
Elizabeth st, No 298, e s, 23.1x75x23.1x73.6, three-story frame house. H. Conklin. (Rent, \$280).....	8,400
Forsyth st, Nos. 181 to 185½, n w s, 75x100, four three-story brick houses. W. A. Spencer. (Rent, \$600 each).....	32,000
Gold st, No. 34, s e s, 23.11x98.10x23x93.11, two-story brick shop, shed and coal yard. John W. Mason. (Rent, \$600, taxes, &c.)..	1,000
Grand st, No. 39, s s, 22.6x72.6, brick house. James Carr. (Rent, \$550)	8,850
Grand st, No. 73, s s, 22x75.4, four-story brick (iron front) house and one-story in rear. Mayer Eisemann. (Rent, \$288, taxes, &c.)..	7,850
Grand st, No. 341, s e cor Ludlow st, 21.11x74.9, three-story frame (brick front) dwelling and two-story brick dwelling in rear, Henry Waters. (Rent, \$1,500, taxes, &c.).....	31,000
Grand st, No. 399, s w s, 20.1x80.1, three-story brick house. Cath. R. Thomas. (Rent, \$1,200)	16,400
Greene st, No 6, e s, 22.10x100.5x29.6x irreg., two-and-one-half-story brick house and one-story in rear. W. A. Spencer. (Rent, \$1,600)	28,500
Hester st, No. 102, s w s, 25.7x100.9, three-story frame house. Aug. Berbert. (Rent, \$750, taxes, &c.).....	11,550
Lispenard st, No. 10, s w s, 20x69, two-and-one-half-story frame house, shed, &c. W. C. Lester. (Rent, \$600, taxes, &c.).....	10,000
Maiden lane, No. 86, s w s, 27x131.7 to No. 15 Cedar st, x27.2x irreg.; No. 86 Maiden lane, three-and-one-half-story brick building and one-story in rear; No. 15 Cedar st, four-story brick house and one-story in rear. E. H. Kellogg. (Rent, \$3,600).....	49,000

Mercer st, w s, 72.4 n Canal st, 37x47.5x31.1x52.4, three-story brick building and one-story brick extension. W. A. Spencer. (Rent, \$2,600)	37,500
Mulberry st, No. 25, w s, 25x74x22.1x69, three-story frame house and stables in rear. D. H. Dugro. (Rent, \$300, taxes, &c.).....	9,100
New Bowery, No. 32, n w s, 35.5x55 to No. 36 Roosevelt st, x24.11x 30.6, two-story brick house. W. A. Spencer. (Rent, \$450, taxes, &c.)	8,700
North William st, No. 18, e s, 16.11x18.1x20.1x7.6, four-story brick house. J. B. Simpson. (Rent, \$420).....	6,000
Pearl st, No. 480, e s, 23.11x119.1x25.4x irreg., two-and-one-half-story brick house and brick house and frame stable in rear. John Boyd. (Rent, \$900),	13,350
Pell st, No. 11, s w s, 25.4x84.1x24.9x89.5, two-story frame loft and four-story brick house in rear. F. A. Conkling. (Rent, \$425, taxes, &c.)	8,000
Prince st, No. 134, s w s, 25x101, three-and-one-half-story brick house. Benj. Van Raclin. (Rent, \$900).....	14,850
Prince st, No. 138, s s, 25x101, two-and-one-half-story frame (brick front) dwelling and one-story brick stable in rear. Morris O'Brien.	13,300
Spring st, No. 94, s w s, 25x50.8, five-story brick (stone front) house. C. F. Wildey. Rent, \$2,804).....	37,000
Spring st, No. 154, s s, 20x80, three-and-one-half-story brick building. John Sullivan. (Rent, \$1,000).....	13,100
Water st, No. 183, s e s, 23.5x45x23.1x44.11, four-story brick house and one-story in rear. W. A. Spencer. (Rent, \$1,320).....	20,600
White st, No. 115, s e cor Centre st, 25.3x80x20.1x—, two-story brick house and one-story brick house, one-story frame house, shanty, &c. D. Knabe. (Rent, \$1,500).....	18,100
White st, No. 117, s s, 23.8x—, twostory brick house. John Boyd. (Rent, \$600)	8,500
White st, No. 119, s s, 23.8x—, two-story brick house. John Boyd. (Rent, \$650)	8,100
White st, Nos. 116, 118 and 120, n e cor Centre st, 58.6x73.2x58.6x 77.4, three two-and-one-half-story brick houses and three-story and one-story brick houses on Centre st. Joseph Kuntz. (Rent, \$2,560)	36,000
Wooster st, No 226, s e s, 20.6x50, two-and-one-half-story brick house. Miss Kath. Wolfe. (Rent, \$600, taxes, &c.).....	10,000
4th st, Nos. 31, 33 and 35 E., s s, 75x132x75x130, four-story brick building, "Turn Hall." Francis Schneider.....	74,000
18th st, No. 140 W., s s, 23x92, two-story brick stable. H. Conkling. (Rent, \$1,000)	15,000
3d av, No. 272, w s, 21.6x75, three-story brick house. J. J. Mathews. (Rent, \$1,200)	18,350

The Jones Sales.

The distribution of the Jones estate by the sales of November 22, 1888, and February 19, 1889, was a notable event in the history of Manhattan realty, on account of the choice location of the properties. The first sale disposed of a large quantity of mercantile property, including part of the site of the Mail and Express Building, at the opening of the steel construction period; and the second, which distributed 100 vacant lots in a most select residential neighborhood, gave immediate rise to important building improvements. The prices realized were regarded as excellent.

Central Park W. (8th av), n w cor 74th st, 25.8x100, vacant. Judge P. Henry Dugro	28,000
Central Park W., adj, 25.6x100. Same.....	16,000
Central Park W., s w cor 75th st, 25.8x100. V. K. Stevenson.....	25,100
Central Park W., adj, 76.4x100. Oppenheimer & Metzger.....	48,450
Central Park W., adj, 51x100. Same.....	32,800
74th st, No. 111, n s, 100 w 9th av, 20x102.2, four-story brick and stone dwelling. D. L. Pulsivi	26,000
74th st, No. 113, 20x102.2. Charles Mayer.....	26,050
74th st, No. 115. C. W. Luyster.....	26,050
74th st, No. 117. George Stake	26,200
74th st, No. 119. C. W. Luyster.....	25,850
74th st, No. 121. Philip Rosenheim.....	26,200
74th st, No. 123. C. W. Luyster.....	25,850
74th st, No. 125. M. M. Sternberger.....	27,100
74th st, No. 127. C. W. Luyster.....	25,850
74th st, No. 129. D. Lord, Jr.....	26,100
74th st, No. 131. C. W. Luyster.....	25,850
74th st, No. 133. O. C. Faubach.....	26,050
74th st, No. 135. C. W. Luyster.....	26,050
74th st, No. 137. P. B. Marshall.....	26,050
74th st, No. 139. A. E. Putnam.....	26,050
74th st, n s, 100 w Central Park West, 600x102.2, vacant. Henry Morgenthau, Wm. J. Ehrich and R. A. Cunningham.....	283,200
75th st, s s, 100 w Central Park West, 600x102.2, vacant. F. de R. Wissmann	264,000
75th st, s s, 100 w 9th av, 100x102.2, vacant. Jacob Rothschild....	44,100
75th st, adj, 100x102.2. Ottinger Bros	42,000
75th st, adj, 100x102.2. Fisher, Adler & Schwartz.....	42,800
75th st, n s, 100 w 9th av, 100x102.2, vacant. B. A. Sands.....	40,000
75th st, adj, 100x102.2. A. J. Robinson.....	37,400
75th st, adj, 75x102.2. F. J. Drummond.....	28,050
Greenwich av, No. 96, n e s, 27.1 s e 13th st, 20x84x irreg. x83, three-story brick store and tenement, and one-story brick building on rear. Charles Simpson. (Amount due \$10,722).....	11,250
5th av, No. 246, s w cor 28th st, 28.4x100, four-story brick and stone dwelling	
28th st, No. 2, s s, 100 w 5th av, 25x112.10, brick stable in rear. Geo. De F. Barton	229,000
9th av, n w cor 74th st, 25.8x100, vacant. Judge P. Henry Dugro..	30,000
9th av, adj, 25.6x100. B. P. Fairchild.....	16,000
9th av, adj, 25.6x100. Oppenheimer & Metzger.....	14,500
9th av, s w cor 75th st, 25.8x100, vacant. Jacob Rothschild.....	26,000
9th av, adj, 76.6x100. Same.....	44,100
9th av, n e cor 74th st, 25.8x100, vacant. Owen McCorken.....	27,250
9th av, adj, 51x100. Same.....	28,000
9th av, adj, 25.6x100. L. J. Phillips.....	13,950
9th av, s e cor 75th st, 25.8x100. A. W. Frazer.....	25,100
9th av, adj, 76.4x100. Same.....	42,000
9th av, n w cor 75th st, 25.8x100, vacant. C. W. Luyster.....	26,000
9th av, adj, 25.6x100. Alex. McSorley.....	16,300
9th av, adj, 51x100. Jacob Bookman.....	30,000
Broadway, No. 203, w s, 33.10 s Fulton st, 24.9x100.3x25x100.3, five-story building. R. C. Alexandre for Elliott F. Shepard.....	211,000
Chambers st, Nos. 91 and 93, n s, 97.6 e Church st, 52.8x150.9x50.2x 150.8, through to Reade st, five-story brick and stone buildings. William Cruikshank, for R. T. Auchmuty.....	255,000
Duane st, Nos. 72 and 74, s s, 140 w Elm st, 50x78.10x49.4x79, two five-story Nova Scotia stone front stores. Louis F. Emilio.....	130,000
Duane st, No. 129, n s, 100.2 w Church st, 25x175.11 to Thomas st, five-story stone and brick front building. Sol. Zickel.....	108,000
Duane st, No. 162, s e cor Hudson st, 35.6x77.1x89, gore, two-story attic and brick house and two-story brick house on rear. P. H. Dugro	45,000

Franklin st, Nos. 107-113, s s, 170.6 w Church st, 76.10x100, five-story stone front building. A. Newbold Morris, for Jas. H. Jones, an heir	227,000
Front st, No. 135, e s, 19.1 n Pine st, 19x61.10x18.6x64.8, four-story brick house. R. L. Montgomery.....	20,000
Fulton st, Nos. 164-168, s s, 100.4 w Broadway, 66.6x77.4x66.9x77.7, four and four-and-a-half-story buildings. R. C. Alexandre, for Elliott F. Shepard	151,000
Hudson st, Nos. 56-60, Thomas st, Nos. 93-97, n e cor, 78x78.3x100.3 x irreg., five-story brick building. R. C. Williams & Co	155,500
Liberty st, No. 121, n s, 36.8 e Greenwich st, 25x100.9x25x100.10, five-story stone front building. L. E. Ransom.....	48,000
Maidea lane, No. 32, s s, 34.2 w Nassau st, 16.8x83x15x79.9, four-story brick building. Helen Langdon, an heir.....	60,000
Maiden lane, No. 34, adj, 18.3x42.4x18.5x39.5 five-and-a-half-story brick building. Same.....	41,000
Warren st, No. 36, n s, 25.3 w Church st, 25.2x100.10x25.2x100.9, five-story stone front store. F. de R. Wissmann.....	69,500
Washington st, No. 280, w s, 80.9 n Warren st, 26.9x74.3x12.6x irreg., five-story brick house. Charles H. Woodbury.....	44,500
Washington st, No. 279, e s, 65.2 n Warren st, 26.3x75.10x26.5x75.9, five-story brick house. T. S. Clarkson.....	40,000
9th av, s e cor 75th st, 25.8x100. P. H. Dugro.....	26,300
9th av, e s, adj 25.6x100. William Gillespie.....	15,300
9th av, e s, adj, 51x100. G. L. Lawrence.....	30,400

The Morgenthau Sale.

The Morgenthau sale, which took place May 30, 1891, disposed of 411 vacant lots on Washington Heights. The property was originally part of the Chesebrough estate, and was bought in 1879 by George Ehret, the brewer, for \$350,000. Governor Morgan purchased it in 1881 for \$450,000; when his estate was wound up it was secured by Morton & Bliss for \$400,000; in the early part of 1891 it was conveyed to the Washington Heights Improvement Co., of which Henry Morgenthau was the leading spirit, for a stated consideration of \$980,000, of which \$680,000 was left on mortgage. At the Morgenthau sale the property brought \$1,494,300. The actual cash investment of Mr. Morgenthau and his associates was therefore \$300,000, upon which they realized an advance of over \$500,000, or 170 per cent. During the past two years a pronounced speculative movement has been developed in unimproved lots on Washington Heights. This sale, as well as the Ward sale, on page 151, will therefore have special value as a record of prices.

Kingsbridge road, s e cor 178th st, 25.4x98.8x25x103. B. F. Kearns.	5,050
Kingsbridge road, adj, 50.8x90.1x50x98.9. Same.....	6,800
Kingsbridge road, adj, 25.4x85.9x25x90.1. Mahoney Bros.....	3,050
Kingsbridge road, s e cor 179th st, 25.6x90.10x85.8x25. S. Wolf....	4,700
Kingsbridge road, adj, 76.6x106.3x75x90.10. F. Koch.....	10,350
Kingsbridge road, adj, 76.6x96.8x75x81.3. A. Moses.....	10,500

Kingsbridge road, n e cor 178th st, 25.6x101.9x25x96.8. E. J. Marsh.	5,800
Kingsbridge road, s e cor 180th st, 25.6x87.6x25x82.4. A. Block.	5,150
Kingsbridge road, adj, 25.6x92.7x25x87. D. P. Freedman.	3,600
Kingsbridge road, adj, 51x102.10x50x92.7. Thos. Alexander.	7,000
Kingsbridge road, adj, 25.6x83x25x77.10. B. L. Kennelly.	3,000
Kingsbridge road, adj, 57x93.3x50x83. B. F. Kearns.	7,000
Kingsbridge road, adj, 25.6x93.3x25x98.5. Same.	5,650
Kingsbridge road, s e cor 181st st, 25.6x80.1x25x75. F. T. Higgins.	9,200
Kingsbridge road, adj, 76.6x95.6x75x80.1. J. Lichtenstein.	12,400
Kingsbridge road, adj, 96.5x99.11x irreg. x90.6. S. Wolf.	13,800
Kingsbridge road, n e cor 180th st, 25.6x99.11x25x105. A. Block.	7,500
Kingsbridge road, s e cor 182d st, 25.2x95.11x25x99.4. L. Schlesinger.	4,800
Kingsbridge road, adj, 25.2x102.6x25x105.11. Mr. Elting.	4,500
Kingsbridge road, adj, 45.4x96.4x45x102.6. J. T. Anger.	6,850
Kingsbridge road, adj, 50.4x89.5x50x96.4. B. F. Kearns.	7,050
Kingsbridge road, n e cor 181st st, 25.2x86x25x89.5. Same.	8,200
178th st, s s, 100 w Amsterdam av, 25x100. A. J. Connick.	2,400
178th st, adj, 150x100. M. Friedsam.	14,400
178th st, n s, 100 w Audubon, 125x100. B. P. Fairchild.	10,250
178th st, adj, 25x100. Thos. J. Colton.	2,275
178th st, n s, 100 w Wadsworth av, 50x100. Wm. Mulqueen.	5,050
178th st, adj, 25x100. R. M. Lyon.	2,525
178th st, adj, 25x100. E. J. Marsh.	2,575
178th st, s s, 100 w Amsterdam av, 25x99. J. Tourney.	1,975
178th st, adj, 100x94. T. R. Brennan.	7,700
178th st, adj, 50x89. J. M. Muhan.	3,400
178th st, s s, 100 w Wadsworth av, 50x100. S. T. McAvoy.	4,600
178th st, adj, 25x100. Mrs. M. E. Davagh.	2,300
178th st, adj, 25x100. Mahoney Bros.	2,275
178th st, n s, 100 w 11th av, 50x100. R. A. Haglisz.	4,600
178th st, adj, 50x100. I. Yates.	4,750
179th st, s s, 100 w 11th av, 100x100. C. Trinks.	8,800
179th st, n s, 100 w Amsterdam av, 50x100. J. L. Marcellus.	4,500
179th st, adj, 125x100. B. P. Fairchild.	10,875
179th st, s s, 100 w Audubon av, 125x100. Wm. Kennelly.	11,375
179th st, adj, 25x100. Wm. Dolsen.	2,400
179th st, n s, 100 w Audubon av, 100x100. B. P. Fairchild.	9,500
179th st, adj, 50x100. Alex. Martin, Jr.	4,900
179th st, n s, 100 w Audubon av, 25x100. J. Lechtalen.	2,600
179th st, adj, 75x100. C. Trinks.	7,350
179th st, n s, 100 w Wadsworth av, 50x100. B. F. Kearns.	5,700
179th st, s s, 100 w Amsterdam, 100x100. Wilson & Knight.	10,000
179th st, adj, 75x100. M. Friedsam.	7,200
179th st, s s, 100 w Wadsworth av, 25x100. M. Curley.	2,375
179th st, adj. Mrs. Weir.	2,350
179th st, adj. Thos. Molloy.	2,375
180th st, s s, 100 w Amsterdam av, 75x100. H. G. Badgley.	7,600
180th st, adj, 75x100. B. P. Fairchild.	7,200
180th st, adj, 25x100. S. De Walltearss.	2,425
180th st, n s, 100 w Amsterdam av, 50x100. S. Goldsticker.	5,700
180th st, adj, 120x100. L. K. Ungrich.	12,325
180th st, n s, 100 w Audubon av, 25x100. Louis Sanders.	2,750
180th st, adj, 50x100. Thos. McGuire.	5,000
180th st, adj, 25x100. F. T. Higgins.	2,500
180th st, adj, s s, 100 w Audubon av, 75x100. Geo. Schwegler.	7,650
180th st, adj, 75x100. F. B. Mesick.	7,800
180th st, s s, 100 w Audubon av, 25x100. R. M. Hoar.	2,550
180th st, adj, 75x100. H. Batterman.	7,575
180th st, n s, 100 w Audubon av, 50x100. G. & W. J. Rauch.	5,000
180th st, adj, 25x100. Thos J. Colton.	2,450
180th st, adj, 50x100. S. Vollmann.	2,525
180th st, adj, 25x100. Isaac M. Elliott.	2,750
180th st, s s, 100 w Wadsworth av, 25x100. B. L. Kennelly.	3,000

181st st, s s, 100 w Amsterdam av, 50x119.6. S. Goldsticker.....	14,350
181st st, adj, 75x119.6. Hanlon Goodman	16,500
181st st, adj, 25x119.6. B. L. Kennelly	5,300
181st st, adj, 20x119.6. M. A. Frank.....	3,600
181st st, adj, 75x100. Alexander Bros.....	16,050
181st st, s e cor Audubon av. P. A. Smyth	8,600
181st st, s w cor Audubon av, 25x100. Sinclair Myers.....	8,300
181st st, adj, 75x100. Same.....	14,400
181st st, adj, 100x119.6. Same.....	17,100
181st st, adj, 25x119.6. M. E. Monaghan.....	5,700
181st st, adj, 25x119.6. Isaac M. Elliott.....	5,750
181st st, adj, 75x100. M. J. Mulqueen.....	18,000
181st st, s e cor 11th av, 25x100. Edw. Rafter	11,300
181st st, n e cor Audubon av, 25x100. L. Tanenbaum.....	8,000
181st st, adj, 145x100. Same.....	29,800
181st st, adj, 50x100. Morten & Battie.....	10,800
181st st, adj, 50x100. Louis Wendell.....	11,800
181st st, s w cor Wadsworth av, 25x100. Edw. Rafter.....	10,500
181st st, adj, 50x100. J. Lichtenstein.....	13,100
181st st, n w cor Wadsworth av, 25x100. B. F. Kearns.....	7,500
181st st, adj, 50x100. Same.....	9,300
181st st, s w cor 11th av, 25x100. John Reilly.....	12,250
181st st, adj, 75x100. Same.....	17,650
181st st, adj, 25x119.6. D. Kahnweiler.....	5,020
181st st, adj, 50x119.6. Jacob Holhn.....	8,900
181st st, adj, 25x119.6. B. L. Kennelly.....	4,550
181st st, adj, 50x100. Thos. J. Colton.....	9,600
181st st, adj, 25x100. Wm. H. Bergen.....	4,750
Wadsworth av, adj, 50x100. Wurtzbarger & Hecht.....	5,050
Wadsworth av, adj, 50x100. D. W. Ronde.....	5,000
Wadsworth av, s w cor 180th st, 25x100. Same.....	3,700
Wadsworth av, n e cor 180th st, 25x100. John Wynne.....	4,500
Wadsworth av, adj, 50x100. Same.....	4,900
Wadsworth av, adj, 50x100. S. R. Welsen.....	5,100
Wadsworth av, n w cor 180th st, 25x90. B. Fitzgerald.....	4,300
Wadsworth av, adj, 50x90. J. Romaine Brown.....	4,800
Wadsworth av, adj, 45.6x80. C. McIntyre.....	4,350
181st st, s e cor Wadsworth av, 25x100. Edw. Rafter.....	8,100
181st st, n w cor Audubon av, 25x100. Miles Tierney.....	7,150
181st st, adj, 50x100. Same.....	8,350
181st st, adj, 50x100. P. Ward.....	8,300
181st st, adj, 50x100. Mr. Rhode.....	8,800
181st st, adj, 150x100. Mr. Bauerdorf.....	29,500
181st st, n e cor 11th av. B. F. Kearns.....	11,100
181st st, n w cor 11th av, 25x100. John Reilly.....	11,750
181st st, adj, 50x100. P. Ward.....	10,000
181st st, adj, 50x100. J. C. Hatie.....	9,200
181st st, adj, 150x100. P. Fox.....	26,400
181st st, n e cor Wadsworth av, 25x100. Edw. Rafter.....	7,000
182d st, s s, 100 w 11th av, 50x70. G. Robertson.....	4,000
182d st, adj, 50x70. C. Brothers.....	3,950
182d st, s s, 100 w Amsterdam av, 50x100. Louis Wendell.....	5,150
182d st, adj, 100x100. B. P. Fairchild.....	8,900
182d st, adj, 25x100. C. H. Butler.....	2,200
182d st, s s, 100 w Audubon, 50x70. L. Schlesinger.....	3,950
182d st, adj, 75x70. Mrs. W. Schuff.....	6,000
182d st, adj, 25x70. W. J. Parmly.....	2,075
Amsterdam av, n w cor 178th st, 25x100. A. J. Connick.....	9,100
Amsterdam av, adj, 50x100. S. Wolf.....	10,600
Amsterdam av, adj, 75x100. A. J. Connick.....	15,350
Amsterdam av, adj, 25x100. W. E. Munn.....	5,350
Amsterdam av, s w cor 179th st. S. Wolf.....	8,500
Amsterdam av, s w cor 178th st, 25x100. Same.....	8,350
Amsterdam av, adj, 50x100. C. A. Briggs.....	10,475

Amsterdam av, adj, 30.8x100x24.3. S. Vollmann.....	5,050
Amsterdam av, n w cor 179th st, 25x100. J. L. Marcellus.....	9,500
Amsterdam av, adj, 50x100. A. Block.....	11,350
Amsterdam av, adj, 25x100. M. S. Silberberg.....	5,650
Amsterdam av, adj, 50x100. John M. Meehan.....	11,400
Amsterdam av, adj, 25x100. Solomon Moses.....	6,100
Amsterdam av, s w cor 180th st, 25x100. H. G. Badgley.....	10,100
Audubon av, s e cor 180th st, 25x95. L. Gaide.....	3,550
Audubon av, adj, 25x95. H. Newmark.....	2,000
Audubon av, adj, 50x95. Lester Walton.....	3,900
Audubon av, adj, 25x95. E. H. Doyle.....	1,950
Audubon av, adj, 50x95. A. Smart.....	4,200
Audubon av, n e cor 179th st, 25x95. D. W. Ronde.....	3,125
Audubon av, s e cor 178th st, 21.10x95. L. Walton.....	2,475
Audubon av, adj, 60x—x66.1x95. B. P. Fairchild.....	4,875
Audubon av, n w cor 179th st, 25x100. C. G. Tousey.....	3,500
Audubon av, adj, 25x100. Same.....	2,225
Audubon av, adj, 100x100. C. H. Krauch.....	8,400
Audubon av, adj, 25x100. Wm. Dolan.....	2,450
Audubon av, s w cor 180th st, 25x100. L. K. Ungrich.....	3,500
Audubon av, s e cor 179th st, 25x95. M. Friedsam.....	3,200
Audubon av, adj, 150x95. Same.....	12,150
Audubon av, n e cor 178th st, 25x95. Same.....	3,575
Audubon av, s w cor 178th st, 25x100. Esther Silberman.....	3,450
Audubon av, adj, 50x100. Same.....	4,000
Audubon av, adj, 100x100. Wurtzburger & Hecht.....	8,100
Audubon av, s w cor 179th st, 25x100. H. W. Hartman.....	3,450
Audubon av, n e cor 180th st, 25x100. L. K. Ungrich.....	4,000
Audubon av, adj, 25x100. Same.....	2,500
Audubon av, adj, 25x100. Geo. Ebert.....	2,550
Audubon av, adj, 19.6x100. Alexander Bros.....	2,700
Audubon av, n w cor 180th st, 25x100. L. Schlesinger.....	4,000
Audubon av, adj, 75x100. A. E. Fountain, Jr.....	8,400
Audubon av, adj, 19.6x100. J. H. Fink.....	2,000
Audubon av, adj, s e cor 182d st, 25x100. B. F. Kearns.....	3,750
Audubon av, adj, 50x100. Same.....	4,850
Audubon av, s w cor 182d st, 25x100. L. Schlesinger.....	3,450
Audubon av, adj, 50x100. Same.....	4,925
Wadsworth av, n e cor 178th st, 25x100. J. G. Johnson.....	3,275
Wadsworth av, adj, 50x100. Dr. Steers.....	4,750
Wadsworth av, adj, 75x100. Newman Cowen.....	6,900
Wadsworth av, adj, 25x100. R. S. Abrams.....	2,325
Wadsworth av, s e cor 179th st, 25x100. Henry Stickweh.....	3,200
Wadsworth av, s w cor 179th st, 25x100. L. K. Ungrich.....	3,400
Wadsworth av, adj, 100x100. W. W. Watkins.....	10,500
Wadsworth av, adj, 50x100. L. K. Ungrich.....	4,850
Wadsworth av, n w cor 178th st. Same.....	3,400
Wadsworth av, s w cor 178th st, 25x100. T. Donovan.....	3,325
Wadsworth av, adj cor, 50x100. Frank Demult.....	4,300
Wadsworth av, adj cor, 25x100. Wm. McCarthy.....	2,325
Wadsworth av, s e cor 180th st, 25x100. W. H. Elting.....	4,000
Wadsworth av, adj, 50x100. C. Trinks.....	5,150
Wadsworth av, adj, 100x100. Wurtzberber & Hecht.....	10,400
Wadsworth av, n e cor 179th st, 25x100. F. T. Higgins.....	4,000
Wadsworth av, n w cor 179th st, 25x100. D. W. Ronde.....	3,700
Wadsworth av, adj, 25x100. F. T. Kee.....	2,575
Wadsworth av, adj, 25x100. W. J. Brown.....	2,500
Wadsworth av, s w cor 182d st, 25x85. C. E. Schuyler.....	3,000
Wadsworth av, adj, 50x75. Same.....	3,750
Wadsworth av, s e cor 180th st, 25x100. E. W. H. Elting.....	4,000
Wadsworth av, s e cor 182d st, 25x100. Mr. Coffey.....	3,000
Wadsworth av, adj, 50x100. J. W. McCarron.....	4,150
11th av, s w cor 182d st, 25x100. Alfred Miller.....	5,050
11th av, adj, 50x100. A. B. Humphrey.....	6,400

11th av, n e cor 178th st, 25x100. Thos. Colton.....	5,500
11th av, adj, 25x100. Same.....	3,525
11th av, adj, 25x100 Otto Boelsen.....	3,400
11th av, adj, 75x100. J. Davis.....	10,425
11th av, adj, 25x100. Thos J. Colton.....	3,500
11th av, s e cor 179th st, 25x100. Same.....	5,900
11th av, s w cor 179th st, 25x100. H. A. Sohl.....	5,400
11th av, adj, 25x100. Thos. H. Friend.....	3,300
11th av, adj, 25x100. Geo. R. Conklin.....	3,200
11th av, adj, 50x100. Vollman Bros	6,500
11th av, adj, 50x100. J. Edgar Leaycraft.....	3,350
11th av, n w cor 178th st. Same.....	5,450
11th av, s e cor 180th st, 25x100. L. Walton.....	6,000
11th av, adj, 75x100. Same.....	10,800
11th av n e cor 179th st, 25x100. B. F. Kearns.....	5,350
11th av, adj. Same.....	10,950
11th av, n w cor 178th st, 25x100. T. Boumeister.....	5,200
11th av, adj, 25x100. Carl Thomson.....	3,625
11th av, adj, 25x100. B. L. Kennelly.....	3,625
11th av, adj, 75x100. C. Shormeler.....	10,950
11th av, adj, 25x100. P. Somers.....	3,850
11th av, s w cor 180th st. A. Block	6,100
11th av, n e cor 180th st, 25x100. J. F. B. Smith.....	7,000
11th av, adj, 25x100. A. Block.....	4 150
11th av, adj, 25x100. John Delaney.....	4,100
11th av, adj, 25x100. L. B. Knickman.....	4,100
11th av, adj, 19.6x100. M. J. Mulqueen.....	4,300
11th av, n w cor 180th st, 25x100. John Reilly.....	6,750
11th av, adj. Same.....	15,975
11th av, s e cor 182d st, 25x100. P. Ward.....	5,000
11th av, adj, 25x100. J. H. Little.....	3,350
11th av, adj, 20x1000. Mrs. H. Purvis.....	2,875

The Arnold Sale.

The 143 lots disposed of at the Arnold sale, April 15, 1892, were located on the East Side and in Harlem. The competition was free and unrestricted, and so far as known there was absolutely no protection or bidding by representatives of the estate.

Lenox av, n w cor 128th st, 99.11x75, vacant. Leopold Kahn.....	44,000
133d st, s s, 325 e 7th av, 75x99.11, vacant. Francis J. Schnugg....	20,700
134th st, s s, 260 w 5th av, 200x99.11, vacant. E. C. Bell.....	40,000
87th st, n w cor Madison av, 95x100.8, vacant. Higgins & Kane....	65,500
87th st, n s, adj, 100x100.8, vacant. Peter Summers.....	52,000
87th st, n s, adj, 50x100.8, vacant. Andrew H. Smith.....	27,400
88th st, s w cor Madison av, 95x100.8, vacant. J. Wehrum....	63,500
88th st, s s, adj, 125x100.8, vacant. Max Danziger.....	58,750
88th st, s s, adj, 97.9x100.8, vacant. J. Keiser.....	50,800
90th st, s s, 113.4 e Madison av, 76.8x100.8, vacant. Max Danziger.	33,300
94th st, n w cor Madison av, 42.9x100.8, vacant. L. M. Jones.....	30,000
94th st, n s, adj, 125x100.8, vacant. Same.....	63,750
94th st, n s, adj, 100x100.8, vacant. Sonn Bros.....	52,800
94th st, adj, 50x100.8, vacant. Francis J. Schnugg.....	27,000
95th st, s w cor Madison av, 42.9x100.8, vacant. Newman Cowen..	29,000
95th st, s s, adj, 75x100.8, vacant. John Hamey.....	32,100
95th st, s s, adj, 100x100.8, vacant. Max Danziger.....	43,200
95th st, s s, adj, 100x100.8, vacant. Geo. F. Johnson.....	46,000
97th st, s s, 100 e 5th av, 75x100.11, vacant. A. Cameron.....	26,100
102d st, s s, 100 e 5th av, 25x100.11, vacant. Geo. Wolff.....	7,400
102d st, s s, adj, 225x100.11, vacant. Geo. F. Johnson.....	63,000

134th st, s s, 75 e 7th av, 100x99.11, vacant. Jacob M. Newman....	28,400
134th st, s s, 375 e 7th av, 275x99.11, vacant. Henry M. Bendheim..	72,600
133d st, n s, 350 e 7th av, 100x99.11, vacant. Henry M. Bendheim..	26,800
135th st, s s, 125 w Lenox av, 50x99.11, vacant. A. J. Bruen.....	19,000
136th st, n s, 75 w Lenox av, 150x99.11. John Hamey.....	33,600
137th st, n s, 100 e Lenox av, 100x99.11, vacant. Alex. Cadoo.....	16,800
138th st, s s, 175 e Lenox av, 275x99.11. S. Manges.....	33,000
139th st, n s, 370 w 5th av, 75x99.11, vacant. M. Greenbaum.....	8,550
Lenox av, n w cor 138th st, 99.11x125, vacant. J. M. Newman.....	29,000
Lenox av, s w cor 139th st, 99.11x125, vacant. H. Hirsh.....	28,200

The Bernheimer-Schmid Sale.

The Bernheimer-Schmid sale was held March 7, 1895, under a decree granted in friendly partition proceedings. The eighty-two lots put up, located on 108th and 109th streets and Columbus avenue, were eagerly competed for. The total realized was \$550,050.

Columbus av, n w cor 108th st, 25.5x100, this and all other parcels vacant unless otherwise mentioned. W. R. Rose.....	15,500
Columbus av, adj above, 25.2x100. Wm. Rankin.....	9,200
Columbus av, adj above, 75.6x100. Heilner & Wolf.....	26,800
Columbus av, adj above, 50.4x100. Adler & Herrman.....	18,550
Columbus av, s w cor 109th st, 25.5x100. Heilner & Wolf.....	18,500
Columbus av, s e cor 109th st, 25.5x100. Wm. Rankin.....	17,500
Columbus av, adj above, 25.2x100. Same.....	10,300
Columbus av, adj above, 25.2x100. Cohen & Endgl.....	9,500
Columbus av, adj above, 75.6x100. Ottinger Bros.....	27,450
Columbus av, adj above, 25.2x100. Wm. Rankin.....	9,500
Columbus av, n e cor 108th st, 25.5x100. Same.....	13,800
109th st, s s, 100 w Columbus av, 25x100.11. Adler & Herrman....	7,100
109th st, adj above, 25x100.11. Heilner & Wolf.....	6,000
109th st, adj above, 100x100.11. Wm. Rankin.....	18,800
109th st, adj above, 50x100.11. Conrad Schlosser.....	9,350
109th st, adj above, 125x100.11. Sonn Bros.....	27,400
109th st, adj above, 25x100.11. David Christie.....	5,700
109th st, adj above, 50x100.11. W. P. Silleck.....	11,725
109th st, adj above, 50x100.11. S. J. Luckings.....	18,200
109th st, adj above, 25.100.11. Anton Schwartz.....	6,200
109th st, adj above, 50x100.11. Adler & Herrman.....	13,500
109th st, adj above, 50x100.11. Jared Bell.....	14,400
109th st, adj above, 50x100.11. Peter Wagner.....	15,800
109th st, adj above and extending in front to point 0.4 e of Amsterdam av, 49.8x105x20.9x100.11. John Flanigan. Carmel, N. Y....	17,000
109th st, s s, 100 e Columbus av, 25x100.11. W. R. Rose.....	5,575
109th st, adj above, 25x100.11. Geo. E. Mott.....	4,700
109th st, adj above, 25x100.11. W. R. Rose.....	4,650
109th st, adj above, 25x200.11. Geo. E. Mott.....	4,825
109th st, adj above, 75x100.11. Sonn Bros.....	16,175
108th st, n s, 100 e Columbus av, 50x100.11. Same.....	10,300
108th st, adj above, 100x100.11. W. R. Rose.....	18,250
108th st, adj above, 25x100.11. Jacob S. Bernheimer.....	5,000
108th st, adj above, 43x204.10 to 109th st, x8x201.10. Same.....	7,500
108th st, n s, 100 w Columbus av, 75x100.11. John Jones.....	14,575
108th st, adj above, 25x100.11. W. R. Rose.....	4,550
108th st, adj above, 50x100.11. David Christie.....	9,075
108th st, adj above, 50x100.11. W. R. Rose.....	9,050
108th st, adj above, 50.9x100.11, two-story brick and two-story frame houses. Geo. E. Mott.....	10,600
108th st, adj above, 149.2x100.11. W. R. Rose.....	26,850
108th st, adj above, 75x100.11. Joseph Carr.....	13,750

108th st, adj above, 25x100.11. R. D. Elder.....	4,550
108th st, adj above, 25x100.11. W. R. Rose.....	4,500
108th st, adj above, 25x100.11. David Christie.....	4,900
108th st, adj above, 50x100.11. Jared Bell.....	10,200
108th st, adj above and extending in front to a point 58.1 e of Amsterdam av, 41.11x105x70.9x100.11. Same.....	12,700

The Ward Sale.

The Susan B. Ward partition sale on November 19, 1896, and October 19, 1897, disposed of 238 lots on Washington Heights for a total of \$444,250.

November 19, 1896.

Kingsbridge road, s w cor 170th st, 28x91x25.3x103.1, this and parcels described below vacant. C. Buckman.....	9 550
Kingsbridge road, adj above, 56x127.4x50.6x103.1. G. W. Van Allen and C. Buckman.....	12,000
Kingsbridge road, adj above, 28x114.6x25.3x102.4. Same.....	5,700
170th st, s s, 91 w Kingsbridge road, 125x90. Same.....	14,000
170th st, adj above, 50x90. David Kahnweiler.....	4,000
170th st, adj above, 100x90. Edward Oppenheimer.....	7,000
170th st, adj above, 50x90. J. Bleecker & Son for a customer.....	3,700
170th st, adj above, 100x90. M. Hecht.....	7,800
170th st, adj above, 70x90. T. G. Smith.....	7,800
Fort Washington av, s e cor 170th st, 25.3x95x25.3x96.2. C. T. Barney.....	4,700
Fort Washington av, adj above, 101.3x90.8x100.11x96.2. Same.....	11,100
Fort Washington av, adj above, 25.8x86.3x25.3x90.8. Jane O'Neill.....	2,150
Fort Washington av, adj above and n e cor 169th st, as proposed, 25.9x80.9x25.3x86.3. Mrs. F. Hack or Mack.....	3,000
169th st, as proposed, n s, 80.9 e Fort Washington av, 45x86.7. C. T. Barney.....	2,800
169th st, adj above, 150x86.7. A. Herzberg.....	8,600
169th st, adj above, 50x86.7. D. J. Timpon.....	2,900
169th st, adj above, 200x86.7. William Hays.....	19,200
169th st, adj above, 50x86.7. Edward M. Timmins.....	4,700
169th st, adj above, 25x100.11. D. Markey.....	2,900
169th st, adj above, 25x75.8. A. M. Geraty.....	2,600
Kingsbridge road, n w cor 169th st, as proposed, 26.3x118.3x25.3x113.9. C. H. Douglass.....	9,900
Kingsbridge road, adj above, 56x89.6x50.6x113.9. C. K. Henderson.....	10 850
Fort Washington av, s w cor 170th st, 25x100x25x98.11. C. T. Barney.....	4,600
Fort Washington av, adj above, 75x98.5x75x98.11. J. Romaine Brown.....	10,500
Fort Washington av, adj above, 75.6x107.3x75x98.5. C. T. Barney.....	9,900
Fort Washington av, adj above, 33.6x114x31.7x107.3. James C. Hussey.....	4,850
Haven av, s e cor 170th st, 25.10x110.1x25x103.8. C. T. Barney.....	4,300
Haven av, adj above, 77.6x84.2x75x103.8. Same.....	6,300
Haven av, adj above, 25.10x127.9x25x134.2. Adelaide Murdock.....	1,850
Haven av, 50.9x114.9x50x127.9. M. Donohue.....	3,000
Haven av, adj above, 31.5x106.11x31.8x114.9. John McSherry.....	1,800
170th st, s s, 100 w Fort Washington av, 50x100. J. Romaine Brown.....	5,300
Fort Washington av, s w cor 170th st, 25x100x25x98.11. C. T. Barney.....	4,600
Fort Washington av, adj above, 75x98.5x75x98.11. J. Romaine Brown.....	10,500
Fort Washington av, adj above, 75.6x107.3x75.98.5. C. T. Barney.....	9,900
Fort Washington av, adj above, 33.6x114x31.7x107.3. James C. Hussey.....	4,850

Fort Washington av, n w cor 170th st, as proposed, 50x95x50x97.3.	
John Drey	8,750
Fort Washington av, s w cor 171st st, as proposed, 146x103.10x145	
x97.3. C. T. Barney.....	15,700
170th st, as proposed, 95 w Fort Washington av, 100x97.6. Same..	10,000
171st st, as proposed, 103.10 w Fort Washington av, 125x97.6. Mrs.	
C. C. Carroll.....	5,250
Haven av, as proposed, s e cor 171st st, 51.8x108.11x50x95.11. J. F.	
Weber	4,800
Haven av, adj above, 25.10x89.6x25x95.11. Henry Holdman.....	1,550
Haven av, adj above, 23.3x83.8x22.6x89.6. C. T. Barney.....	1,700
Haven av, n e cor 170th st, 100.9x83.4x99.6x108.7. Henry B. Cohen..	9,500
Fort Washington av, n w cor 171st st, as proposed, 50x95x50x92.9.	
J. A. Zimmerman.....	3,250
Fort Washington av, adj above, 25.1x90.6x25x92.9. James S. Car-	
ney	1,050
Fort Washington av, adj above, 25.2x87.625x90.6. W. A. Toll.....	1,075
Fort Washington av, adj above, 25.3x112.6x25x108.9. S. A. Ludin..	1,600
Fort Washington av, adj above, 39.11x101.6x31.11x108.9. J. S.	
Ehrich	2,900
171st st, as proposed, n s, 95 w Fort Washington av, 25x100. C.	
Shulander	1,325
171st st, adj above, 75x151.6x75.3x156.11. James L. Wells.....	4,650
171st st, adj above, 25x149.9x25.1x151.6. Lottie Waldmar.....	1,425
171st st, adj above, 25x147.11x25.1x149.9. J. A. Curry.....	1,600
171st st, adj above, 25x146.1x25.1x147.11. D. J. Murphy.....	1,725
Haven av, as proposed, n e cor 171st st, as proposed, 141.7x84.6x	
120.4. L. J. Phillips.....	11,400
Haven av, w s, opposite n part 170th st, as proposed, 25x103.4. M.	
Hecht	2,750
Haven av, s of and adj above, 100x103.4. J. Romaine Brown.....	10,000
Haven av, adj above, 75x103.4. W. E. Patch.....	4,125
Haven av, adj above, 50x103.4. M. Hecht.....	2,300
Haven av, adj above, 35.6x103.8x35.4x103.4. Sol. Prowler.....	1,150
Haven av, w s, opposite n line proposed 170th st, 75x103.4. Wm.	
Miller.....	8,625
Haven av, n and adj above, 25x103.4. Reeber's Sons.....	2,300
Haven av, adj above, 25x103.4. M. Hecht.....	2,100
Haven av, adj above, 50x103.4. T. G. Smith.....	4,600
Haven av, adj above, 25x103.4. M. Hecht.....	1,850
Haven av, adj above, 25x103.4. Anna M. Cardana.....	1,875
Haven av, adj above, 50x103.4. T. G. Smith.....	3,750
Haven av, adj above, 25x103.4. C. A. Mannie.....	1,675
Haven av, adj above, 50x103.4. Caspar Iba.....	3,100
Haven av, adj above, 26.8x100.11x21.8x103.4. Alex E. Mitchell.....	1,825

October 19, 1897.

Fort Washington av, w s, 175.7 s 170th st, runs w 107.3 x s 31.7	
x s e 113.11 to av, x n w 13.3 x n 20.4 to beginning. H. W. Money.	2,400
Haven av, e s, 180.9 s 170th st, 31.5x106.11x31.7x114.9. H. W.	
Money.....	1,000
Boulevard Lafayette, e s, 269.3 n 170th st, 101.9x229.3x96.8x223.9.	
W. F. Carroll.....	4,550
Boulevard Lafayette, e s, 63.6 n 170th st, 103x229x100x193.2. Adolph	
Wurzbarger.....	4,700
Boulevard Lafayette, e s, 142.6 n 170th st, 103x177.3x100x161.5.	
Charles B. Hill.....	5,325
Boulevard Lafayette, s w cor Private st, adj Fort Washington	
Park, 28.55x100.04x—x100, vacant. P. A. Cassidy.....	3,300
Boulevard Lafayette, w s, adj, 154x100. P. A. Cassidy.....	11,550
Boulevard Lafayette, adj, 25x100. Mrs. A. Budd.....	1,150
Boulevard Lafayette, adj, 25x100. S. L. Prowler.....	1,200
Boulevard Lafayette, adj, 50x100. J. J. Fredericks.....	2,400
Boulevard Lafayette, adj, 100x100. E. C. Lyons.....	4,800

Boulevard Lafayette, adj, 200x100. J. D. Butler.....	14,000
Boulevard Lafayette, adj, 116.11x115.16x116.11x100. C. H. Scholer- man.....	9,900
Private st, adj Fort Washington Park, s e cor Private st, e of N Y C R R, 108.9x107.57, vacant. W. H. Douglass.....	12,100
PPrivate st, e s, adj, 125x180.90. W. H. Douglass.....	2,600
Private st, adj, 50x108.90. J. J. Fredericks.....	800
Private st, adj, 100x108.90. E. C. Lyons.....	1,800
Private st, adj, 75x108.90. William Hayes.....	1,350
Private st, adj, 125x108.9. W. A. Martin.....	2,300
Private st, adj, 104.1x109.98x106.84x108.90. A. W. Miller.....	2,200
Private st, s w cor Private st e of N Y C R R, 7.10x112.25x0.14x110.6, vacant. W. L. Douglass.....	500
Private st, w s, adj, 473.59x irreg. Wm Rankin.....	6,750
Private st, adj, 25x82.6. J. J. Fredericks.....	350
Private st, adj, 50x125.43x53.24x82.26. F. C. A. Maurice.....	900
Private st, adj, 27.86x126.15x25x125.34; also irreg strip w of N Y C R R. Geo. B. Ward.....	1,000

Prices of Fifth Avenue Lots, 1872-1882.

The following is a list of actual prices paid for Fifth avenue property between the years 1872 and 1882. The list shows the havoc which the panic of 1873 wrought on the prices that ruled during the preceding speculative period. Values apparently continued to fall until 1877, when they seem to have reached the low-water mark:

N e cor 81st st, 25.8x100; also one on 81st st, 25x102.2. June 22, 1872	\$102,500
25.8 n 81st st, 51x100. June 8, 1872.....	100,000
Same property. Dec. 25, 1875.....	55,000
Same property. June, 1879.....	50,000
Same property. Jan. 15, 1881.....	76,000
76.8 n 81st st, 25.6x100. July 5, 1879.....	26,000
Same property. March 19, 1881.....	40,000
S e cor 82d st, 102.2x125. May 25, 1872.....	225,000
S e cor 83d st, 102.2x160. March 23, 1872.....	220,000
Same property. June 1, 1872.....	250,000
Same property. Dec. 25, 1875.....	145,000
Same property. July 5, 1879.....	132,500
Same property. Nov., 1879.....	142,500
Same property. May 8, 1880.....	180,000
N e cor 83d st, 50.2x100. Feb. 3, 1872.....	95,000
51.2 n 83d st, 52x100. June 1, 1872.....	91,000
Same property. August, 1879.....	75,000
Same property. Jan. 15, 1881.....	78,000
S e cor 84th st, 25.8x100. June 8, 1872.....	71,500
Same property. Feb. 28, 1874.....	71,500
Same property. Sept. 19, 1874.....	73,500
Same property. Foreclos. Nov. 14, 1874.....	43,500
Same property. Feb. 15, 1879.....	26,000
Same property. Feb. 15, 1879	33,000
Same property. April 24, 1880.....	39,500
26.6 s 84th st, 25x100. Feb. 3, 1872.....	38,000
Same property. June 8, 1872.....	40,000
Same property. July 3, 1875.....	35,000
Same property. Aug. 21, 1875.....	32,736
N e cor 84th st, 22.2x125. March 2, 1878.....	50,000

22.2 n 84th st, 20x115. April 18, 1874.....	120,000
Same property. Aug. 26, 1876.....	80,000
Same property. Aug. 11, 1877.....	80,000
Same property. March 26, 1881.....	80,000
Same property. Dec. 17, 1881.....	66,500
Same property. Dec. 17, 1881.....	80,000
42.2 n 84th st, 20x125. Feb., 1878.....	25,000
Same property. Feb., 1880.....	50,000
62.2 n 84th st. Feb., 1878.....	25,000
Same property. Feb., 1880.....	50,000
82.2 n 84th st. Oct. 13, 1887.....	43,000
Same property. March 13, 1880.....	50,000
Same property. March 20, 1880.....	43,000
127 n 84th st, 25x100. Sept. 11, 1875.....	42,000
Same property. April 22, 1876.....	23,300
S e cor 85th st, 27.2x100. April 6, 1872.....	47,500
Same property. July 13, 1872.....	42,500
Same property. Jan., 1882.....	55,000
27.2 s 85th st, 25x100. Feb. 24, 1872.....	30,000
*50.8 s 85th st, 50x102. March 2, 1872.....	68,000
Same property. March 2, 1872.....	65,000
52.2 s 85th st, 25x100. June 8, 1872.....	40,000
Same property. June 8, 1872.....	35,000
N e cor 85th st, 25x100, with two on n s of 85th st, 50x102.2. Dec. 5, 1874.....	80,000
*25 n 85th st. 21.1x100. Feb. 21, 1874.....	70,000
*46.10 n 85th st, 22x100. May 10, 1873.....	80,000
Same property. June 24, 1876.....	38,000
*68.10 n 85th st, 22x100. Nov. 2, 1872.....	80,000
Same property. Sept. 11, 1873.....	57,500
Same property. Oct 9, 1873.....	85,000
Same property. Sept. 19, 1874.....	97,500
Same property. Sept. 2, 1876.....	32,000
*90.10 n 85th st, 22x100. May 20, 1876.....	34,000
*112.10 n 85th st, 22x100. Oct 12, 1872.....	80,800
S e cor 86th st, 25.8x100. July 3, 1875.....	60,000
Same property. April 21, 1877.....	23,000
*25.8 s 86th st, 21.10x100. Jan. 27, 1872.....	75,000
Same property. April 19, 1873.....	75,000
Same property. July 8, 1876.....	38,000
Same property. April 29, 1876.....	26,800
69.6 s 86th st, 22x100. April, 1879.....	26,000
N e cor 86th st, abt 4 lots. Jun 5, 1875.....	95,000
Same property. May 1, 1879.....	80,000
Same property. Jan. 10, 1880.....	86,000
50 n 86th st, 75x102. Jan. 29, 1881.....	95,000
Same property. Jan. 29, 1881.....	75,000
Same property. Dec. 31, 1881.....	120,000
S e cor 87th st, 25.2x102.2. April 21, 1877.....	24,000
25.2 s 87th st, 25.2x102. April 28, 1877.....	19,000
50.2 s 87th st, 25.2x102. April 28, 1877.....	18,000
N e cor 87th st, 25.4x140. May 18, 1877.....	25,600
25.4 n 87th st, 25.4x140. May 19, 1877.....	14,000
50.11 n 87th st, 25x140. July, 1879.....	17,000
50.8 n 87th st, 50x140. March 12, 1881.....	70,000
Same property. March 12, 1881.....	70,000
75.8 n 87th st, 25x140. March 19, 1881.....	17,000
Same property. Feb. 21, 1880.....	25,000
Bet 87th and 88th sts, 50x140. April 6, 1872.....	83,000
50.8 s 88th st, 25x102. July 8, 1876.....	15,000
75.8 s 88th st, 25x102. Aug 5, 1876.....	15,000
75.11 s 88th st, 25x140. April 1, 1876.....	28,000
50.4 n 89th st, 50.4x102.2. 2-3 part. Oct 12, 1872.....	53,333
Same property. Aug. 5, 1876.....	28,500

Same property. Dec. 25, 1877.....	36,000
S e cor 90th st, 25x100. May 25, 1872.....	48,000
Same property. April 12, 1873.....	50,000
Same property. Feb. 21, 1874.....	55,000
50.5 n 89th st, 50.4x102.2; s e cor 85th st, 27.2x100. Aug 10, 1872..	135,000
Same property. Aug. 17, 1872.....	56,000
75.6 n 95th st, 25.2x100. Jan. 17, 1874.....	6,000
75.9 s 101st st, 25x100. Nov. 24, 1876.....	5,000
S e cor 85th st, 27.2x100; 50.4 n 89th st, 50.4x102.2. Aug. 10, 1873..	135,000

*Improved.

Population of New York.

The Old City, including, from 1874, the 23d and 24th Wards.

1653.....	1,120	1825.....	166,136
1661.....	1,743	1830.....	202,589
1653.....	1,120	1835.....	253,028
1673.....	2,500	1840.....	312,710
1696.....	4,455	1845.....	358,310
1731.....	8,256	1850.....	515,547
1750.....	10,000	1855.....	629,904
1756.....	10,530	1860.....	813,669
1771.....	21,865	1865.....	726,836
1774.....	22,861	1870.....	942,292
1786.....	23,688	1875.....	1,041,886
1790.....	33,131	1880.....	1,206,299
1800.....	60,489	1890.....	1,515,301
1805.....	75,587	1892.....	1,801,639
1810.....	96,373	1893.....	1,891,306
1816.....	100,619	1897.....	*2,000,000
1820.....	123,706	1898.....	†3,388,000

*Estimated.

†Greater New York.

Prices of Lots in 1847, 1857 and 1868.

The following comparative table of estimated prices is taken from the Record and Guide for December, 1868:

Location of Lots.	Value in April, 1847.	Value in April, 1857.	Value in November, 1868.
19th st, bet 5th and 6th avs.....	\$1,650	\$7,000	\$18,000
21st st, bet 5th and 6th avs.....	1,950	7,500	18,000
17th and 18th sts, bet 6th and 7th avs...	2,350	4,000	18,000
18th st, bet 6th and 7th avs.....	1,200	4,000	7,500
4th av, bet 50th and 51st sts.....	450	2,500	10,000
50th st, bet 3d and 4th avs.....	350	1,850	5,000
32d st, bet 4th and 5th avs.....	1,500	6,500	12,000
43d st, bet 5th and 6th avs.....	1,200	3,000	15,000
45th st, bet 5th and 6th avs.....	775	3,000	14,000
51st st, near 4th av.....	450	1,800	7,000
Lexington av and 52d st.....	450	2,000	10,000
4th av., 52d st (inside).....	420	2,000	7,000
5th av, 56th to 57th sts.....	575	5,500	30,000
5th av., 58th st.....	500	5,000	30,000
58th st, bet 5th and 6th avs.....	220	2,000	12,000
Near 5th av.....	..	..	15,000
8th av., 65th st.....	400	5,000	(cor.) 12,000
64th st., near 8th av.....	225	1,500	6,000
66th st, near 3d av.....	700	1,600	5,000
Lexington av, 65th and 66th sts.....	800	2,000	7,000
3d av, 7th st.....	750	2,500	12,500
71st st and 3d av.....	480	1,500	12,500
80th st and 3d av.....	290	1,100	3,000
3d av, 80th st.....	525	2,250	12,000
79th st, near 3d av.....	295	3,500	6,099
4th av, 83d st.....	400	1,500	5,000
83d st, 3d and 4th avs.....	275	1,000	3,000
5th av, 86th st, (cor).....	850	5,500	25,000
5th av, at 86th st (inside).....	505	4,500	20,000
86th st, near 5th av.....	510	2,500	8,000
Lexington av, bet 51st and 52d sts.:			
Inside... ..	1,400	2,000	8,000
Corner... ..	2,100	2,750	10,000
58th to 62d sts, bet 5th and 6th avs, 5th and Madison avs.....	700	2,000	10,000
64th to 68th sts, bet 6th and 7th avs, 5th and Madison avs.....	600	1,750	6,000
74th to 78th sts, bet 5th and 6th avs, 5th and Madison avs.....	750	1,500	5,000
77th st, bet 4th and 5th avs, 5th and Mad- ison avs	650	1,250	8,000
74th st, bet 3d and 4th avs.....	600	1,200	8,500
5th av, 7th st.....	1,000	2,000	42,000
80th st, bet 3d and 4th avs, on s s.....	950	1,500	3,000
And on 4th av.....	2,000	3,000	12,000
116th st (100 ft. st), bet 3d and 4th avs....	500	700	3,000
117th st, bet 2d and 4th avs.....	600	690	2,000

Comparative Tables of Conveyances Since 1863.

1. The Old City, including from 1874, the 23d and 24th Wards.

Year.	Total No. of Conveys.	Considera- tion.	No. Nom.	Average price per Convey.
1868.....	10,070	\$160,027,469	592	\$15,892
1869.....	8,155	148,308,878	696	18,186
1870.....	6,632	106,750,732	810	16,096
1871.....	7,070	146,446,743	625	20,710
1872.....	7,599	167,599,852	639	22,055
1873.....	7,175	145,285,753	880	20,248
1874.....	7,223	119,030,668	1,254	16,479
1875.....	7,214	102,646,802	1,555	14,090
1876.....	7,133	89,841,680	1,656	12,595
1877.....	7,076	73,594,864	1,692	10,400
1878.....	6,861	66,481,006	1,927	9,846
1879.....	8,969	87,882,097	2,301	9,798
1880.....	9,588	115,505,306	2,564	12,083
1881.....	11,678	148,219,490	2,931	12,692
1882.....	9,975	170,764,163	2,724	17,218
1883.....	10,620	164,534,012	2,813	15,499
1884.....	12,262	182,044,304	3,061	14,846
1885.....	11,412	184,837,797	2,514	16,109
1886.....	13,569	243,981,539	2,404	17,988
1887.....	13,896	258,663,980	2,684	18,513
1888.....	12,035	217,732,936	2,846	18,090
1889.....	15,085	269,873,442	3,474	17,908
1890.....	15,857	282,047,609	4,042	17,156
1891.....	14,013	231,908,649	4,058	16,548
1892.....	13,944	228,608,599	4,458	16,394
1893.....	13,244	216,825,732	4,963	16,371
1894.....	13,436	149,614,843	5,705	19,352
1895.....	14,040	151,968,784	6,782	20,938
1896.....	14,072	132,522,092	7,434	19,970
1897.....	14,988	111,232,874	8,072	16,083

Comparative Tables of Conveyances Since 1868.—*Continued.*

2. Twenty-third and Twenty-fourth Wards.

Year.	Total No. of Conveys.	Considera- tion.	No. Nom.	Average price per Convey.
1868.....	.....	.....	.....	.....
1869.....	.....	.....	.....	.....
1870.....	.....	.....	.....	.....
1871.....	.....	.....	.....	.....
1872.....	.....	.....	.....	.....
1873.....	.....	.....	.....	.....
1874.....	1,032	\$4,833,059	161	\$4,685
1875.....	867	3,641,240	168	4,199
1876.....	749	3,107,875	146	3,361
1877.....	897	2,125,579	224	2,482
1878.....	852	2,361,819	218	2,901
1879.....	916	2,318,184	213	2,519
1880.....	853	3,838,670	219	4,617
1881.....	1,056	3,727,362	268	3,520
1882.....	1,067	3,889,064	296	3,645
1883.....	1,366	4,343,545	371	3,179
1884.....	1,849	4,382,975	404	2,382
1885.....	1,625	4,787,848	379	2,946
1886.....	2,120	7,911,185	340	3,731
1887.....	2,505	11,226,480	449	4,481
1888.....	2,048	8,219,576	477	4,013
1889.....	2,773	11,535,266	668	4,156
1890.....	2,875	13,332,374	668	4,637
1891.....	2,775	11,153,950	670	3,947
1892.....	2,826	11,066,795	758	3,916
1893.....	2,457	10,092,668	796	4,462
1894.....	2,587	8,750,644	903	5,196
1895*.....	3,512	11,114,409	1,453	5,398
1896*.....	4,192	10,733,782	1,897	4,685
1897*.....	4,605	10,937,273	2,163	4,478

*Including the district east of the Bronx annexed in June, 1895.

Total Number of Buildings Projected Since 1868.

The Old City, including, from 1874, the 23d and 24th Wards:

	No. of plans field.	No. of buildings projected.	Estimated cost.	Average cost per buildings.
1868*.....	964	2,014	\$34,517,682	\$17,138
1869*.....	1,266	2,348	40,352,058	17,185
1870*.....	1,206	2,351	34,068,998	14,746
1871*.....	1,416	2,782	42,585,391	15,307
1872*.....	1,000	1,728	27,884,870	16,137
1873*.....	825	1,311	24,936,535	19,021
1874.....	878	1,388	16,667,414	12,008
1875.....	819	1,406	18,226,870	12,763
1876.....	760	1,379	15,963,980	11,532
1877.....	773	1,432	13,365,114	9,333
1878.....	753	1,672	15,219,680	9,012
1879.....	960	2,065	22,567,322	10,899
1880.....	1,065	2,252	29,115,335	12,928
1881.....	1,247	2,682	43,391,300	16,179
1882.....	1,264	2,577	44,793,186	17,381
1883.....	1,450	2,623	43,214,346	16,498
1884.....	1,663	2,812	42,215,423	15,012
1885.....	1,843	3,370	45,918,246	13,624
1886.....	2,085	4,097	58,479,653	14,273
1887.....	2,131	4,385	66,839,980	15,242
1888.....	1,760	3,076	47,142,478	15,332
1889.....	2,046	3,621	68,792,031	18,998
1890.....	2,000	3,507	74,676,373	21,282
1891.....	1,625	2,821	56,072,624	19,977
1892.....	1,783	2,967	59,107,618	19,921
1893.....	1,433	2,172	55,162,953	25,397
1894.....	1,589	2,592	51,420,577	19,452
1895.....	2,184	3,838	84,111,033	21,912
1896.....	1,894	3,149	71,889,765	22,829
1897.....	1,988	3,516	83,668,840	23,796

*The cost of building was abnormally high in these years.

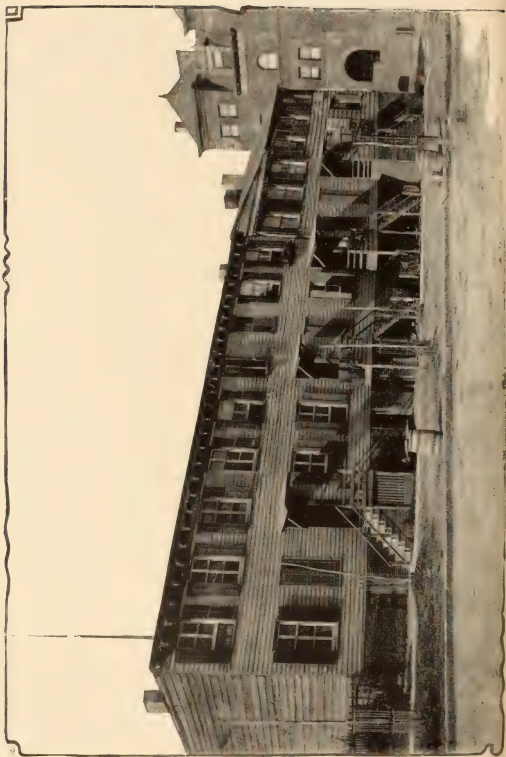
Buildings Projected From 1890 to 1897, Inclusive.

	1890.	1891.	1892.	January to December, inclusive	1895.	1896.	1897.
Total No. plans filed..	2,080	1,625	1,783	1,433	2,184	1,894	1,988
Buildings projected	3,597	2,821	2,967	2,172	3,838	3,149	3,516
Estimated cost	\$74,076,373	\$36,072,624	\$59,107,618	\$55,162,953	\$31,420,577	\$84,111,033	\$71,880,765
No. south of 14th st..	410	388	367	349	240	289	215
Cost	\$17,761,550	\$15,296,550	\$14,041,925	\$15,913,467	\$14,594,541	\$20,942,320	\$19,944,720
No. between 14th and 50th sts.	376	279	297	192	185	278	174
Cost	\$15,826,039	\$9,050,845	\$9,503,217	\$7,227,820	\$8,078,351	\$12,210,125	\$13,846,405
No. bet. 50th and 125th sts., east 5th av.	565	366	412	301	337	443	221
Cost	\$11,571,240	\$7,917,769	\$10,492,397	\$7,065,365	\$7,141,155	\$9,445,745	\$4,480,350
No. bet. 50th and 125th sts., west 8th av.	804	689	645	443	479	609	358
Cost	\$17,872,350	\$14,531,470	\$15,151,925	\$17,101,450	\$10,449,775	\$20,800,820	\$11,565,775
No. bet. 110th and 125th sts., 5th & 8th avs	135	74	70	54	90	180	178
Cost	\$2,491,025	\$1,595,000	\$957,700	\$1,247,000	\$1,355,500	\$3,967,100	\$4,081,620
No. north of 125th st..	417	310	319	235	309	531	386
Cost	\$4,915,308	\$3,685,743	\$3,867,031	\$3,292,165	\$3,897,439	\$8,407,455	\$6,003,200

*Includes Cathedral of St. John the Divine, cost \$5,000,000; and St. Luke's Hospital, cost \$1,000,000.



THE MERCANTILE DISTRICT — GREENE STREET.
A View during the Rebuilding Period— 1890.





THE OLD WEST SIDE.
1890.
WEST END AVENUE, NORTH OF 40TH STREET.



THE OLD WEST SIDE. SOUTH SIDE OF 8TH STREET, NEAR RIVERSIDE DRIVE—1890.

Mr. Geo. R. Read.

There is no name better known or more prominently identified with New York realty than that of Mr. Geo. R. Read, of No. 10 Wall street and No. 9 Pine street. The business managed by Mr. Read is comparable only to that of a large banking or financial institution in its extent and solidity. It would not be fair to say his offices handle all the first-class realty in this city, but there can be no exaggeration when it is stated that Mr. Read handles a remarkably large portion of desirable New York realty. The business in brief is a general real estate business; it embraces auctioneering, brokerage agency and appraisals. Mr. Read is retained by the largest financial institutions and executors of large estates as an adviser in matters appertaining to real estate values. In this connection Mr. Read's judgment is considered authoritative and final. That he is a leading expert in the metropolis can readily be substantiated by the fact that Mr. Read has been instrumental in carrying to a successful conclusion many of the large, if not the largest, real estate transactions ever recorded in this city.

It must be further explained that Mr. Read's business has become much more important and dignified than that of a successful broker. A financial institution, corporation, or estate will place a property in his hands for improvement. They rely on his judgment as to the nature of the improvement, and in this respect he stands in the most intimate relation to his clients. The Corn Exchange Bank officers placed the improvement of their property at William and Beaver streets in his hands. He submitted a scheme in which the data showed a profound and most accurate knowledge of conditions suitable for the proposed improvement. The American Tract Society Building, a twenty-two story building, was built under his advice. He now manages, as general agent, the following, among a long list of buildings: Home Life Insurance Building, Metropolitan Life Insurance Building, Wallace Building, Taylor Building, Corn Exchange Bank Building, Bank of Commerce Building, Astor Building, Constable Building, Park Row Syndicate Building (now in course of construction, and which will be when completed the tallest office building in the world), the Beard Building and the Exchange Court Building.

The direction of a business of this magnitude naturally requires a well-equipped office and management of the soundest character. When one learns that in addition to matters of appraisals, auctions and expert advice which enter so largely into a real estate agent's business that the agent stands in the position of landlord to the tenants, pays the taxes and other assessments of his clients, then one can more easily judge of the extent of the business carried on in Mr. Read's office.

In 1884 Mr. Read opened an office for the carrying on of a real estate business at No. 19 Nassau street. In the comparatively short time which has elapsed he has become the most prominent member of New York real estate circles. He has third filled with honor the position of president of the Real Estate Exchange, and he is held in the highest esteem by all its members.

OLD REAL ESTATE OFFICE No. 51 $\frac{1}{2}$ PINE STREET



VIEW OVER WASHINGTON BRIDGE.



BIRD'S-EYE VIEW OF PARK HILL ON THE HUDSON. NEW YORK CITY'S MOST BEAUTIFUL SUBURB. OWNED BY THE AMERICAN REAL ESTATE COMPANY.

REAL ESTATE LEADERS.

American Real Estate Company.

In the New York field the American Real Estate Company is one of the earliest and oldest companies of its kind, as well as one of the most important.

In 1888, when the gentlemen who organized it first conceived the idea of handling large real estate holdings by means of a stock company, for purposes of investment and development, the idea was new. To-day, New York City has hundreds of real estate corporations, and the business of corporate holding of real estate is recognized as one of the belongings to the extraordinary development of this imperial city.

The plan of the American Real Estate Company differs from that of other companies, in that it affords a continuously open field for the smaller investor, combining his capital with its own foundation capital, and dividing profits on a basis of earnings. It owns, among other properties, Park Hill on the Hudson, the most beautiful suburb of New York City. Its success in this investment has been phenomenal. Park Hill, eight years ago, was a piece of rugged wilderness, overhanging the Hudson, and opposite the centre of the Palisades. No one dreamed of its adaptability for a residence suburb. The American Real Estate Company took hold of it and with landscape gardeners and engineers, and the experienced skill and taste of its own officers turned it into a magnificent residence park and attracted to it some of the most desirable people from the denser residence districts of Manhattan Island.

Park Hill differs from the ordinary real estate enterprise in that it is a community with community interests, growing up with the growth in the neighborhood. It has a country club that is famous throughout upper New York, and many other associations for entertainment and improvement that make life here as desirable as on the borders of Central Park.

The Company has, besides Park Hill, other holdings on Manhattan Island and in the Greater New York. Among which are, "The Cliffs," which it owns and is holding for future development on the same lines as Park Hill, consisting of over 17 acres on upper Broadway, New York, with a frontage of one thousand feet on Van Cortlandt Park, and is a property of great promise. It is on the direct line of the great West Side development, and is already rapidly rising in value.

The American Real Estate Company in Park Hill and its other investments has laid the foundation for an extended business in what has come to be regarded as the safest security this country affords. The offices are located in No. 290 Broadway.

Ashforth & Co.

The firm of Ashforth & Co., of No. 1509 Broadway, stands in a well recognized position of prominence among New York's substantial and high-class realty dealers. It is one of the favored few real estate firms in the Metropolitan district that have served as the stewards of the estates of wealthy New York families and in addition have kept well in touch with the realty movements in recent years. The firm and business is well established, and during its career its reputation for probity and honorable dealing has never been questioned. It has handled very large leases and managed some of the most extensive estates in the city, and it continues to do so. The firm had never before reached its present high state of efficiency in regard to comprehension of detail and knowledge of value. Nor did it carry on a real estate business on so large a scale.

The business was established in 1852 by Mr. James F. Chamberlain, who now is probably better known as the founder of the Franklin Savings Bank, of which he was for many years the president. He was an attorney by avocation and practised the profession in connection with his main business, that of real estate. In 1869, Mr. George Ashforth was admitted into the firm and its name thereupon became Chamberlain & Ashforth. Their offices were then located at the corner of 45th street and Eighth avenue, but were subsequently moved to Broadway, between 42d and 43d streets. In 1884 Mr. Chamberlain, who had grown old in the business, retired, and the business was then carried on by his partner, Mr. George Ashforth, until the latter's death in 1890. Mr. Edward Ashforth, his brother, who had been connected with the real estate business for many years, and was a capable successor to the substantial business, formed a partnership with Mr. Frank Blackhurst, and together, under the name of Ashforth & Co., they continued the successful career of the firm. In 1895, Mr. Blackhurst retired, leaving to his former senior partner the entire control of the large and important business. The name Ashforth & Co. has been maintained.

The management of estates, the investments of funds in high-class realty and other securities and general real estate brokerage, form in general the branches of the realty trade of Ashforth & Co. In the residential sections of the West Side, between 42d street and 57th street, the firm has successfully leased a large number of lots for improvements, and the management of these leaseholds now forms an important feature of the business. The properties under their control, however, are located in all sections of Manhattan Island, from the Battery to Harlem; they embrace piers, mercantile and manufacturing structures and residential buildings. The firm has charge of properties of the Astors, and for many years Edward Ashforth had charge of the Joshua Jones estates, one of the most extensive ever sold in New York. Mr. Ashforth is a charter member of the Real Estate Exchange, and is also a member of the Board of Brokers.

Daniel Birdsall & Co.

The office of the firm of Daniel Birdsall & Co. is located in No. 319 Broadway. The firm is composed of Daniel Birdsall, Frank Lord and George W. Burcham. Mr. Birdsall has been in the real estate business since 1860, at which time he was connected with John Lloyd & Sons, the leading brokers at that time in the wholesale trade district. In 1874 Mr. Birdsall withdrew from the firm and organized his present business. In it, he makes a specialty of the management of estates and the selling and rental of property lying between the Battery and the residential section of the city. The special object of the firm is to confine itself to mercantile property and that class which will eventually be converted to business use. Mr. Lord has been associated with Mr. Birdsall since 1875 and Mr. Burcham since 1878; the firm shows one of the oldest and most honorable records of realty firms in the city. Its long experience through periods of changing values fits it particularly well for the accurate appraisals of values, and in this department it has represented a large number of property-owners in school site condemnation proceedings and the proceedings for the widening of College Place and Elm street. The firm has been retained by the joint owners of the new Hall of Records' site, at Chambers, Reade and Centre streets, to represent them in the proceedings to be instituted for the acquiring by the city of this block of land. The activity of this firm in the rental market may be judged from the fact that in spite of the great competition they succeeded in providing with premises the numerous tenants who were disturbed by the taking for public use the site for the new Hall of Records. The successful leasing of the Central Bank Building on an adverse market and in competition with the numerous new buildings, indicates that the firm is alive to the keen competition which has characterized the realty market of recent years. While the nature of this firm's business tends more to the careful management of downtown estates and the sale of investment properties, it has carried out many important operations, notably, within a short time, two transactions for the Weld estate of Boston, amounting to nearly two millions.

The firm enjoys the distinction of possessing that reliability which causes their clients to seek their advice and to maintain an intimacy with regard to financial and other investments similar to the close relations in which the English business lawyer is held by his client. As to the firm's thorough knowledge of realty in the mercantile and stock districts of New York there is no better evidence than the demand in which they are held as appraisers in those localities.

The Firm of Leonard J. Carpenter.

The Firm of Leonard J. Carpenter is one of the most reliable and stable in New York; indeed, there are few real estate firms which

have attained the status and well-known reputation of this firm. Such a reputation cannot be secured in a year or a decade of years; it is only by the long and faithful execution of business on hand that it can be acquired. To-day the realty business managed by the Firm of Leonard J. Carpenter consists, principally, of the taking entire charge of property for individuals, estates or corporations, although the brokerage department receives special attention. The management of piers also enters into their business.

The name of the founder of the business, Leonard J. Carpenter, is still maintained. Mr. Carpenter was a most prominent member of New York's real estate fraternity; he had held several important positions in the Real Estate Exchange, and his position as agent and adviser of many wealthy families gave him a standing that few possessed. On his death, in 1888, the business was carried on under his name by David Y. Swainson, who has been connected with the office for over thirty years, and Augustus H. Carpenter, who also has been identified with the business for more than twenty years, and Charles L. Carpenter, who is a son of the founder of the business. It need not be said that the reputation of the firm is not only maintained but the business has increased both in the agency and brokerage departments. The present office of the firm is located at No. 41 Liberty street, in the building which was erected by the late Mr. Carpenter, to accommodate himself as well as some of his clients. Another office, a branch, is located in No. 1181 Third avenue, near 68th street. This office was established for the management and development of the large number of properties which they control on the East Side, and which are located through a large area, from 9th street to Harlem River, comprising private dwellings, apartment houses, stores, warehouses and factories, many of which are of modern construction, and have been erected under their personal supervision.

They were instrumental early in the movement which has resulted in the rapid supplanting of so many of the old landmarks, throughout the city, with modern fireproof mercantile structures, and under their supervision a number of such buildings have been erected; among them the handsome store and loft building, Nos. 696 to 702 Broadway, and 5 and 7 East 4th street, for the Schermerhorn estate; and the store and loft building, Nos. 43 to 47 West 23d street, and Nos. 24 and 28 West 24th street.

Floyd Clarkson & Son.

The real estate firms in the lower section of the city, particularly in the stock and office districts, embrace many well-known and substantial firms, some of which have been established over half a century. They carry on their books the names of properties which have doubled and redoubled in value and increased in value as only

Manhattan property has done in the history of American real estate. The firms have managed these properties, have directed investments, and followed rather than determined realty movements, with the result that their principals and clients repose the utmost confidence in them. There are comparatively few such realty dealers in this city, and as a result they are generally placed in the top notch when a list of reliable and prominent real estate dealers is made.

In this list of reputable and well-established real estate dealers in the city the firm of Floyd Clarkson & Son, of Nos. 40 and 42 Broadway will by common consent take a prominent place. It was established nearly thirty years ago by Mr. Floyd Clarkson, the father of the present manager of the business, who had for several years been connected with New York realty matters. That Mr. Clarkson was an energetic student of values and a competent judge of the trend of real estate movements was proved conclusively by the success which attended his efforts particularly as a broker. The properties in which he had figured as the medium of the transaction soon were entrusted to his care and management by his clients. In the course of time his agency business grew extensively as a result of his successful operations, and his clientele becoming larger, his brokerage and agency business became one of the foremost in the city.

In 1894, Mr. Clarkson died, and the management of his extensive business fell to his son, John V. B. Clarkson. He was in every way a capable and competent successor. He was familiar with the details of his father's business and enjoyed his confidence, for he had been associated with him for ten years. The business was therefore one which he could successfully manage. He at once infused new energy into it; he began to enlarge the field of his operations as a broker, and extend the scope of the agency department. He now operates over the whole of Manhattan Island, while his agency department embraces the management of all classes of residential, mercantile and storage property. He is unquestionably one of the most energetic real estate brokers in the realty arena. To his credit, it may be said, Mr. Clarkson has always the interests of his clients uppermost in his mind in all his transactions. He makes loans on bond and mortgage, and is a successful agent of insurance, both fire and life. He is a member of the New York Board of Trade, and is a director of the Riverside Bank. The office is at Nos. 40-42 Broadway.

Wm. Cruikshank's Sons.

The name of Cruikshank has been prominently connected with the realty interests of New York for nearly three-quarters of a century. The firms bearing that name have always represented the best elements of the realty business in this city, and the subjects of our sketch, Wm. Cruikshank's Sons, continue to maintain the

conservative and highly reputable business standing characteristic of the firm. The business which they manage is one of the first in the city, and the properties under their care belong to wealthy American families. The estates and funds given to their care have produced the best possible results, testifying in a degree to the stability of the firm and its methods of business.

The founder of the firm was Mr. William Cruikshank, father of William M. Cruikshank and Edward A. Cruikshank, the present members of the firm. He entered the office of James Cruikshank, his uncle, in 1855, and became associated with him as his partner. At that time the real estate firm of Cruikshank was very prominent in realty transactions in New York, and had been for many years previously. Shortly after the partnership of William and James Cruikshank, the latter's son, E. A. Cruikshank, entered the business, and the firm subsequently became Wm. & E. A. Cruikshank. It was known by this name for ten years, when in 1876 the partnership was dissolved, Mr. William Cruikshank continuing the management of the business until his death in 1894. The care of the business fell to his son William M., who has studied New York realty in his father's office, and was in every way a competent successor. In 1894, on the father's death, a partnership was formed between William M. and his brother Edward A. Cruikshank, and the name of the firm was changed to Wm. Cruikshank's Sons.

The business consists mainly of the management of estates and in this respect is among the first in New York; it consists of the entire management of mercantile buildings and dwellings owned by wealthy American families at home and abroad. The management of personal property consists of investments in bonds, mortgages and reputable stocks for their clientele. The present firm is thoroughly familiar with realty values in all parts of the city and are members of the Real Estate Exchange. While the policy of the firm is conservative, as behooves a well-established house, yet it keeps well in touch with various realty movements in the city. The late Mr. William Cruikshank was one of the trustees of the estate of William Astor and was very prominent in New York realty circles. The firm's address is No. 51 Liberty street.

John F. Doyle & Sons.

Among the older real estate firms in this city is that of John F. Doyle & Sons. John F. Doyle, the senior member and founder of the firm, in his younger days studied law and was admitted to the bar in 1862. He was then in the office of Alexander Hamilton, the grandson of the first Secretary of the Treasury, the firm being Hamilton, Rives & Rogers. This firm was largely interested in the management of estates which eventually came to the hands of Mr. Doyle as agent and finally induced him to abandon law and take up the business of real estate. The estates which fell into his hands to manage at that time embraced among others the estates of James

M. Pendleton, Nathaniel Pendleton Rogers, Francis R. Rives, Alexander Hamilton, George L. Schuyler, John Pyne March, Harriet L. Schuyler and Morgan L. Livingston, followed later by those of William H. Morris, Augustus Newbold Morris, James H. Jones, John Steward, Jr., Royal Phelps, Mrs. Alexander Hamilton and others, too numerous for mention in detail, and it is a significant fact that the business connections thus formed in the earlier days are intact and endure to the present time.

Although Mr. Doyle has been largely interested in the management of estates, he has not confined himself to that specialty. The purchasing and selling of properties, appraising, insurance, placing of monies on bond and mortgage, and all other matters connected with real estate have special attention. Some large and important sales have been made by him, notably the sale to John Jacob Astor of 150 acres of lots in the 23d Ward, a part of the estate of Wm. H. Morris, the sale of the present site of the Columbia Building at the corner of Broadway and Morris street, the block front embracing No. 8 Washington place, and Nos. 15 to 19 West Fourth street, millions of dollars worth of lots in the 19th Ward, and the great sale of Gowanus Bay, South Brooklyn, lots in which it is said he received one of the largest commissions ever paid to a broker.

The clientele of Mr. Doyle's office may be said to be unique in this respect; viz., that it is composed entirely of old historical names; the names of families identified with the early history of the Nation, State and City, including several descendants of the Signers of the Declaration of Independence.

The firm consists of John F. Doyle, his sons, Colonel John F. Doyle, Jr., and Alfred L. Doyle, and their offices are at No. 45 William street, in the building of the Liverpool and London and Globe Insurance Company, whose real estate and mortgage investments are managed by them.

Horace S. Ely & Co.

There is no more substantial or prominent real estate firm in New York than that of Horace S. Ely & Co., of No. 64 Cedar street and 27 West 30th street. The firm enjoys a reputation of being conservative yet progressive, while its business status is not surpassed by any realty firm in the city. It represents the best elements of the trade, and number among its clients many of the wealthy American families at home and abroad. The properties managed by the firm consist of every form of realty and are located in all parts of the city.

This firm has been connected with the real estate trade in New York for the past fifty years. The founder of the business was Mr. Abner L. Ely, the uncle of the present senior member of the firm. It is, therefore, one of the oldest real estate firms in the city, and during its long career it has been prominent in the various movements which have resulted in the development of the city. In 1871

Mr. Horace S. Ely succeeded his uncle, who died in that year. He had been connected with the office for some years previous to his uncle's death and he successfully carried on the business, which was then one of the largest in New York, until 1894, when he admitted into partnership Mr. Alfred E. Marling. Mr. Marling had been closely identified with the office for upwards of twenty years and was thoroughly familiar with the firm's methods of business. On his admission to the firm the name was changed to that of Horace S. Ely & Co., the present title.

The business of the firm consists mainly of the management of estates; this embraces the renting and care of stores, offices, warehouses, piers, dwellings, factories, apartments, storage houses and various kinds of business and residential properties. These properties, as has been said, are located in different sections of the city; it may be added there is scarcely a street or avenue in the entire city in which there is not some property managed by Horace S. Ely & Co. The estates are owned by wealthy New York families or are managed for trust companies and other financial institutions. In conjunction with architects the firm has supervised the erection of buildings for their clients. Many of these buildings are among the more prominent in the city. Some of them are the Prescott Building, John and Nassau streets; Gibbes Building, West Broadway and Murray street; Wilks Building, Broad and Wall street; Presbyterian Building, Fifth avenue and 20th street; Mohawk Building, Fifth avenue and 21st street; Bancroft Building, Nos. 3, 5 and 7 West 29th street.

Hoffman Brothers.

The tendency of the present day is towards specialization, and this is as true, perhaps, of the real estate business as of any other. No better example could be found of the good results of this concentration than that furnished by the remarkable success of Hoffman Bros.

From 1881 to 1884, Mr. Charles F. Hoffman, Jr., was in the real estate business at No. 261 Broadway. During the latter year he removed to No. 4 Warren street, the present address of the firm, and a partnership was formed with his brother, Mr. W. M. V. Hoffman, the style becoming Hoffman Bros.

The new firm decided that in a city so large as New York, where conditions and values were constantly changing, it were more advisable that they should confine themselves to one locality. Consequently, they gave their attention almost exclusively to the development of downtown property, and more especially that lying along Broadway, so far north as 14th street. From 1886 to the present day, with occasional exceptions, they have held to this purpose.

The direct results of this decision were readily apparent. They became intimately acquainted with the growth and value of realty

in their chosen section. They have been closely in touch with every change in condition that has taken place along Broadway during the last twelve or thirteen years. At the same time they have occasionally dealt in other than downtown property, though they have never sought trade which would take them out of their district.

Hoffman Bros. have undoubtedly disposed of more Broadway property than any other real estate firm in New York. To the Weld Estate of Boston, alone, they have sold business properties to the amount of about \$11,000,000. To the Ward Estate they sold Nos. 707 and 709 Broadway, and for them Nos. 165 and 167 on the same avenue. Another large transaction was the sale of the property Nos. 622, 624 and 626 Broadway, running through to Crosby street, for about \$750,000. In 1895, they sold the Hotel Logerot at Fifth avenue and 18th street, for nearly \$400,000 to Mr. A. D. Pell. The property on the northeast corner of Broome and Mercer streets was disposed of for \$225,000, and that on the northeast corner of Broadway at Howard street, for \$290,000; they resold it for the buyer within a week for \$325,000. There might be made mention of other disposals of property on an enormous scale, large even for a firm making sales of such size as those of Hoffman Bros.

In considering the fact that the success of Hoffman Bros. has been due in no small measure to their specialization, the fact must not be overlooked that they were, in a sense, pioneers. The centre of the real estate business had been for years Pine and Liberty streets, consequently, their move to Warren street was somewhat in the nature of an experiment. How successful this experiment proved to be is now a matter of history.

Owing to the care of their father's estate devolving upon them, on the 1st of January, 1898, this firm retired from the brokerage business, but has continued for the purpose of buying and selling on its own account.

S. F. Jayne & Co.

Among the well-known real estate firms operating chiefly on the West Side of Manhattan Island there is none so well and favorably known as the firm of S. F. Jayne & Co. Established for many years, its reputation for reliability has grown with the progress of years, and from confining the field of business to the neighborhood of 8th avenue and its vicinity, the firm now successfully operates in all parts of the city. S. F. Jayne & Co. are the successors of the old firm of J. & W. Denham, which began business at the corner of 8th avenue and 16th street in 1845; in 1867 the location of the office was changed to West 23rd street, near 8th avenue. The Denham brothers at that time had succeeded in establishing the most extensive business in what was then considered an uptown district. They conducted a business in which the management of over 100 estates was involved,

and in addition built the entire front of 8th avenue, on the east side from 37th street to 39th street. It was in their office that Mr. S. F. Jayne learned the real estate business as a clerk, and studied with careful scrutiny the uptown movement which began to be a marked feature in the days of his apprenticeship. After a few years Mr. Jayne was admitted into partnership along with two others, Messrs. John D. Walley and George W. Mercer, and after the death of their old employers, they continued to transact business under the old firm's name. In 1876 Mr. Jayne withdrew and opened an office at the present address, No. 254 West 23d street, where he kept pace with the marvellous improvement in matters appertaining to real estate. In 1880 he associated himself with his present partner, Mr. Albert M. Cudner, and the name of the firm changed to S. F. Jayne & Co. They have made their old office on 23rd street, which is centrally located in the field of metropolitan real estate, their main office, but in order to collect rents and to rent the houses and estates managed by them with greater convenience they have established agencies for that purpose in different parts of the city.

In the management of property and the many branches of real estate brokerage the firm has been greatly successful. Mr. Jayne is well known as an appraiser of New York real estate. He is a charter member of the Real Estate Exchange and Board of Brokers, in both of which his partner, Mr. Cudner, holds membership. He is at present President of the Real Estate Board of Brokers of New York and he has been for many years a director of the New York County National Bank.

J. Edgar Leaycraft.

For the past quarter of a century the name of Mr. J. Edgar Leaycraft, of No. 1517 Broadway, has been very prominent in New York real estate interests. His agency business is one of the largest in the city, which, considering the fact that Mr. Leaycraft succeeded no one in business, nor was he connected with any one in the real estate trade, certainly reflects honor upon him as a successful real estate dealer. It was in 1872 when Mr. Leaycraft opened an office on Eighth avenue, near 42d street. He did not have an auspicious commencement as one would desire, for he lacked any special experience in the business, and he did not possess a single client at the outset. He was energetic, however, and gave strict attention to his business. His aim, from the beginning, was to build up a settled business in which the renting, collecting of rent and management of estates were the main features. He also gave due attention to the brokerage department in which the knowledge of values entered. According to the records of building improvements, the district between 34th and 59th streets was a scene of great activity about twenty-five years ago. Mr. Leaycraft kept well in touch with the various movements, and as he possessed

a thorough acquaintance with the character of the district and its suitability for various kinds of improvements, his advice was much sought after by investors, whom he afterwards retained as his clients. To-day he numbers among his clients the largest owners and operators in that section. He has been actively identified with the West Side, and associated with those who have helped to develop that beautiful section of the city. He is treasurer of the West End Association, and has been for a number of years, and is also a member of the Board of Governors of the Colonial Club, and treasurer of the same, the Colonial Club being composed of residents of that particular neighborhood.

But it must not be understood that Mr. Leaycraft has confined his operations as an agent or broker to that, the central district of New York. Those same qualities which inspired confidence among his clients in his ability as a real estate agent brought him success in other parts of the city. The properties now managed by him are located on the East Side and West Side, from the Battery to Harlem, and also in the annexed district.

The secret of Mr. Leaycraft's success exists in his faculty for successfully transacting his clients' real estate affairs in a manner that inspires implicit confidence in him. That he has never violated that confidence can readily be judged by his continued and steadily increasing success. He has made a great many sales and has placed a great amount of money on bond and mortgage. He has, moreover, always been identified in any movement tending to the advancement of realty interests in New York. Mr. Leaycraft was one of the earliest subscribers to the Real Estate Exchange; when the Board of Brokers was being organized as a separate and distinct class of realty operators, Mr. Leaycraft was one of the small group who advocated its establishment. He is a member of the Board of Directors of the Real Estate Exchange, and is also treasurer of the same. He is a member of the Real Estate Board of Brokers and of the Chamber of Commerce, New York Historical Society, the Union League Club and several other clubs. The Colonial and Republican clubs and the West End Association have showed their appreciation of his ability as a business man by electing him to the office of treasurer. He is a trustee of the Franklin Savings Bank, and is chairman of its Building Committee.

Cord Meyer & Co.

In the realty business in New York, there are various specialties which, at the present time the real estate broker learns to master. The general real estate business is changing somewhat. It is not by any means followed by a retinue such as was the case some years ago. The tendency toward the specialization in real estate shows itself particularly in the case of Cord Meyer & Co., of No. 62 William street. This firm has given the development of Elmhurst, L. I., their

special attention, and substantiated it by a wide knowledge of general realty, and it may be truthfully remarked that they have scored an unqualified success.

Elmhurst has been made one of our prettiest and most suitable suburban homes. It is practically the creation of Mr. Cord Meyer, who for many years has been one of the leaders in the development of Long Island. With practical foresight, Mr. Meyer perceived the natural advantages both of its location and proximity to New York, and for these reasons concluded it would prove an admirable location for the homes of business and professional men within easy communication of their offices. Four years ago Mr. Cord Meyer purchased an immense tract of land, somewhat north and adjacent to the old settlement of Newtown. There were in all over 1,700 lots in the purchase when the survey was made. To the development of this property the energies of Cord Meyer & Co. have since been directed. It was laid out in the most advantageous manner, the streets graded, gas introduced, water mains laid and a water company formed. The roads are macadamized and the sidewalks paved; Cord Meyer & Co. succeeded in placing on the market suburban lots compared with which none were better. The company promptly set about the erection of modern dwellings, of which they have already erected two hundred, every one of which presents a different appearance. This was done to prevent that sameness in dwellings which is so unpleasant in some suburban settlements.

Cord Meyer & Co. have made it a special feature in the development of Elmhurst that there shall be no speculative building, neither shall they sell lots to persons unless a guarantee is given that the property will be improved at once.

Elmhurst is three miles from 34th Street Ferry and can be reached by two trolley systems and by the L. I. Railroad. The City Hall can be reached from Elmhurst in a ride of forty minutes.

In addition to this they have 1,000 lots at North Woodside, at prices from \$350 and upward.

Porter & Co.

The real estate firm of Porter & Co., of No. 159 West 125th street, is probably the oldest and best known real estate firm operating in Harlem. Organized in 1867 by Mr. David F. Porter, with an office at the corner of Third avenue and 122d street, the business has been prominently identified with realty movements in Harlem up to the present time. It can be readily understood that Mr. Porter, the founder of the firm, was a pioneer real estate man in that vicinity at the time he commenced business. Harlem was dotted here and there with small dwellings, and the proverbial Harlem goat was in evidence everywhere. Madison avenue was built up, interspersed, however, with many vacant lots, as far as 82d street, but there was not the slightest inkling of

what the future had in store for that locality, around which Mr. Porter was beginning to operate. In 1875 he moved to what was then a more central location, and what it has still remained, the corner of Third avenue and 125th street. The realty movement in Harlem was beginning to take definite shape, and Mr. Porter was foremost among those who were directing the tendencies of the investors. The great thoroughfare of Harlem, 125th street, had begun to assume a commercial aspect and was stretching itself westward. Again Mr. Porter moved his office, to No. 173 East 125th street, and again, to No. 77 East 125th street. In 1877 Mr. Porter associated with himself John W. Leggett, and the firm's name was changed to Porter & Co., under which name it still exists. The tendency westward became so marked that in 1880 the offices were again moved, this time across Fifth avenue into the West Side, where they have since remained. In 1887 Mr. Leggett died, leaving the entire charge of their large business to Mr. Porter. For the past ten years he gave considerable attention to the management of estates, and this branch of the business had assumed such large proportions that the brokerage business which characterized his early career was in a measure overshadowed. He had assumed control of a large number of estates, many of the owners of which were his friends for whom he had procured profitable investments. The management of estates had sought him as their manager because of his reputation. No one stood higher in the estimation of the business men and investors of Harlem than David F. Porter. He was president of the Hamilton Bank of New York City for many years, and was twice elected Presidential elector. He died in October, 1897. His son, Mr. Charles F. Porter, has taken the business under his management, and associated with him as his partner is Mr. George W. Short. Both are young men, they having been associated with Mr. Porter for many years, and are experienced in realty affairs. They will pursue the methods adopted by the founder of the firm in regard to their agency department, and have also entered the brokerage business to a greater extent than formerly. They are familiar with realty values, and possessing a clientele of the best and most desirable class of investors there is no question but that the records of sales will show the firm of Porter & Co. to be as potent a factor in Harlem realty circles as was the case some years ago when David F. Porter was practically without competition.

Francis T. Underhill.

The ranks of real estate dealers are being recruited to-day from a class of men who either own considerable realty themselves or else enjoy the confidence of property owners. The reason for this is apparent when one considers the enormous rentals to be collected and the great interests at stake. The immense trusts now reposed upon real estate brokers have called into the profession men of the highest

standing. When, therefore, a man enters the realty arena enjoying an extensive acquaintance of investors and those who are interested in maintaining New York real estate, such a person holds a distinct advantage and possesses many of the qualifications necessary to a successful career.

Among the new firms which have sprung into prominence during the last few years is that of Francis T. Underhill. Mr. Underhill entered the realty arena enjoying many of the advantages to which we have alluded. A man of leisure previous to his entry, two years ago, he became a real estate broker to better manage his own property and at the same time enlarging the scope of business to manage the estates of his friends. At the present time Mr. Underhill makes a specialty of downtown business property, located below Canal street. He does not, however, confine his operations as a broker or agent in that district exclusively, as the records show that he has been prominent in high-class realty movements in the residential sections of the city. A separate feature of Mr. Underhill's business is out of town property. He holds probably a larger list of Long Island cottages for his clients than any of his competitors.

Mr. Underhill's clientele embraces a substantial class of private investors, and his brokerage business is one of the best in the downtown districts. He has devised for his office one of the most complete systems of records that have yet been tried. It is exhaustive and accurate, and in a few years will be invaluable. As a student of realty values in every section of the city Mr. Underhill has no superior; he is now a competent judge of properties located from the Battery to Harlem. His address is No. 9 Pine street.

C. G. A. Brosien.

C. G. A. Brosien, of No. 144 St. Nicholas avenue, corner 117th street, is one of New York's oldest real estate dealers. He has been identified with realty interests in this city for the past twenty-seven years, and has acted in the capacities of broker and agent. His field of operations has, to a great extent, been located at the upper West Side, from 110th street northward. Mr. Brosien is a careful student of realty values, and is familiar with all the investors and builders in his locality. Besides the general real estate business, he also negotiates loans and manages an insurance business.

When Mr. Brosien first entered New York's realty circles as a broker and agent, the field in which he now operates so extensively and successfully was covered here and there with squatters' shanties, and the elevated railroads had not begun to carry settlements along their route. In the early part of his career, however, he operated downtown, but kept intimately in touch with the various movements which less than a decade ago became so pronounced. By possessing an accurate knowledge of the possibility of future development of the

properties of which he secured control, he was much sought after by builders and investors who relied implicitly on his judgment. His transactions as a broker have been fraught with an unusual amount of success during his whole career, due no doubt to his thorough knowledge of realty values and his excellent executive abilities.

As an agent Mr. Brosien has been no less successful. The properties under his charge belong mainly to clients who have purchased, sold and dealt through him as a broker in all their real estate affairs. Their interests have always been carefully guarded by him. It may be added that Mr. Brosien has been frequently called to act as appraiser.

P. C. Eckhardt.

There is a class of real estate men who are as much a necessity to a community as is the medical practitioner. They have studied the value of realty in all its circumstances and positions and stand ready to assist the investor. Such real estate dealers are a boon to a community. They have assisted rather than determined the march of improvements. They, as a result, have been always successful.

No one would question the right of placing the firm of P. C. Eckhardt in this category. The records of his career as a real estate agent and broker show that he undeniably belongs there. In 1858 he established his business which for a few years consisted in the collection of rents, the management of estates and renting. He entered the brokerage field soon after in the locality in which his office was situated. His knowledge of realty values became so precise, his judgments so accurate and the business management so careful and full of tact that his success was soon a pronounced feature. "Nothing succeeds like success" the adage runs, and it held true in Mr. Eckhardt's case. He extended the field of his operations both as a broker and agent until it now covers Manhattan Island. Throughout his career he pursued the course of treating his customers in matters of investment as he would treat himself. He gained their confidence and kept it through many years. His clientele embraces men who have grown rich under his fostering advice.

Mr. Eckhardt also operates on his own account. He has frequently rebuilt houses and then resold; he has built several flat houses in desirable residential localities. Mr. Eckhardt has acted in the capacity of appraiser in various parts of the city for private individuals, institutions and civic authorities. He is assisted in the management of his business by his son. His address is 693 Ninth avenue.

Ferdinand Fish.

Ferdinand Fish began his business career as a real estate agent in Plainfield, N. J., in 1870. In 1872 he opened an office in New York, at No. 160 Broadway. In 1873 he went into the office of the late James M. Taylor, at No. 1½ Pine street, continuing with him until the death of Mr. Taylor in 1882, when he succeeded to the

business. He built up a large business in the renting and management of property. Among the notable transactions with which his name has been identified, was the sale of Nos. 149, 151 and 153 Broadway, to the Singer Manufacturing Co., for \$950,000, which, at \$148.62 per foot, was at that time the highest price ever paid for Broadway property. He sold also Nos. 177 and 179 Broadway, and No. 10 Cortlandt street to the Paulding estate, and No. 104 Broadway to the American Surety Co. In 1895 he disposed of the renting and collection branch of his business, and has since devoted his time more particularly to selling real estate. In addition, he carried on a large expert business, on behalf of the United States Government, the City of New York, Manhattan Elevated Railroad, and a number of corporations and estates. He organized several corporations, which have contributed to the development of properties, among which is the Water Witch Club, in the highlands of Navesink, N. J., which has been very successful. His latest undertaking is the organization of the Aareek Country Club, which has acquired a beautiful lake property at Pompton, N. J. His name also appears as one of the directors of the Realty Developing-Investment Corporation, recently incorporated. His address is 150 Broadway.

F. H. Gunning.

Mr. F. H. Gunning is an energetic and prominent real estate broker and agent, with offices in No. 41 East Fifty-ninth street. He makes a specialty of East Side residential property from Forty-second street to Ninety-sixth street, between Fifth and Lexington avenues. In that locality his books show the names of a very large number of high class apartment houses, and his sales as a broker entitle him to be placed in the highest class of operators in that field. Mr. Gunning has been established seven years, and during that time the records of realty transactions in that locality, of which he makes a specialty, show him to be prominently connected with most of the large transactions. This fact is probably the best test of a broker's efficiency.

The change from the old style high-stoop house to the American basement residence, which admits of a more liberal treatment by the architect, has in a great measure been due to the efforts of Mr. Gunning. He interested his clients in the advantages the American basement house undoubtedly possesses and the builders and architects carried out the wishes of his clients. Not only in the respect mentioned was Mr. Gunning's influence brought to bear, but he was also instrumental in influencing merchant builders to modernize the old style brownstone houses and develop the section in which he operates into the most desirable residential section of the city. It is a well-known fact that he has been pre-eminently successful in the development of 59th street into a popular and modern business, studio and office section. The evidence of the truth of this statement

is sufficiently ample when we consider the class of buildings which are under his management. They are all of a most desirable class and stand as material vouchers to his energy and successful termination of his efforts. It may be added that Mr. Gunning is an untiring worker as a broker and agent. His client's interests are always foremost and he gives his personal attention to all business entrusted to the office.

John R. Hamilton.

John R. Hamilton, real estate broker, belongs to the careful yet energetic class of realty dealers who contribute regularly a large quota to the sales, transfers and exchanges of the week. Mr. Hamilton is a representative New York broker, who is familiar with realty values in the sections in which he operates, and stands at any time ready and competent to judge the values of properties which may come under discussion. He was born in New York. For the first few years Mr. Hamilton paid particular attention to loans on bond and mortgage, and while engaged in this branch of the business he became familiar with New York realty values. As a rule Mr. Hamilton confines his operations in that section of the city north of 14th street in the residential and commercial districts. In 1895 he changed his policy somewhat, and added to the loan department a general real estate brokerage. In this capacity Mr. Hamilton has met with the steady success which has characterized his movements in the realty arena since he first became connected with that business. Mr. Hamilton indulges in no policy of misrepresentation or exaggeration of fact. His clientele embraces a class of investors who repose the utmost confidence in him as their broker and agent. His address is No. 206 Broadway, "Evening Post" Building.

Charles Martin.

The upper portion of the Twentieth Ward and the lower portion of Twenty-second Ward have not to any great extent been the centre of realty movements in the past decade. Brokers and operators as a rule did not make that portion of the city the scene of their operation on that account. Nevertheless there have grown up in that locality several substantial real estate firms, among which is the firm of Charles Martin, whose office is located in No. 627 Ninth avenue. Mr. Martin established himself in the real estate business in May, 1889, in No. 401 West 48th street. He had at the time very little experience in general realty, but in a practical way began to study the general features of the business. He possessed some experience in the matter of collection of rents, renting and the management of estates. He passed from those rudiments of the business to the study of comparative values of properties in his neighborhood. His success can readily be perceived when it is learned that during the past

three years he has sold more realty in the locality in which he operates than any of his competitors.

Mr. Martin operates to a great extent as a broker in the Twenty-second Ward. As an agent, he manages estates, rents tenements, flats and business property, collects rents on the West Side, between 102d and 23d streets. His success can be attributed to a careful study of the business combined with careful management. The public learned to rely on him, and he kept their confidences. He is now in a position to operate on his own account. In connection with his realty business Mr. Martin also manages a large insurance department.

Charles Griffith Moses.

One of the youngest and most enterprising real estate firms in the city is that of Charles Griffith Moses and Eugene S. L. Moses. While operating to a greater extent in that section of the city known as Washington Heights and its vicinity than elsewhere, the firm is also very much in evidence in downtown realty transactions. To keep better in touch with the movements in both sections of the city, the firm has two offices, one in No. 56 Liberty street, and the other, the main office, is located at the corner of 157th street and Amsterdam avenue. Mr. C. G. Moses, the senior member of the firm, has been connected with New York realty matters for many years, but it was in January, 1894, he opened an office and commenced operations on his own account. Seeing the great opportunities that Washington Heights offered as a realty arena, Mr. Moses at once began to pay special attention to realty values in that district. It is well known that the territory referred to became greatly overcrowded with real estate dealers, and the successful brokers were few. The status of the firm of Charles Griffith Moses at the present time may be judged readily from the fact that to-day the firm transacts one of the best, if not the best, real estate businesses in the Washington Heights district. Both members of the firm are recognized expert appraisers in the field in which they operate, and are also thoroughly familiar with realty values throughout New York: It may be added that one of the most familiar names appearing in the records of sales and realty transactions in this city is that of Charles Griffith Moses.

Allen W. Smith.

Real estate merchants or brokers, as the case may be, find that in order to successfully compete in the realty arena of this city, their preparatory experience must not be obtained after they have opened an office and made their announcement. If, as some dealers have

found to their sorrow, they attempt to establish a business on such a basis, there is no question but that misfortune will soon overtake them.

We refer to this point in order to bring forth the connection of Mr. Allen W. Smith, of No. 252 West 14th street, with the New York real estate trade. Mr. Smith has but recently opened an office at the address stated for the transaction of real estate business in all its branches, both as broker and agent. He will also manage, in connection with the agency business, estates that have been under his control for the past twenty years. Mr. Smith transacted a renting business for the past twenty-nine years, during which time he rented from various portions of the Astor estate's entire buildings, and subsequently re-rented them under his management and full control. He has, during this long period, acquired a full knowledge of the values of realty, and is capable of transacting not only a brokerage business in which exact values of properties is absolutely necessary, but is also able to appraise realty, particularly on the West Side, from Barrow street to 72d street. Mr. Smith is extremely conscientious in his dealings, and his future as a real estate merchant in the wider sphere is a fixed quantity.

David Stewart.

The peculiar geographical position of New York and its remarkable growth have combined to give to the upper portion of the city during the last few years a wonderful impetus. What is commonly known as the Washington Heights comprises that section of the city north of 125th street and west of 8th avenue. Here are being built a large number of private dwellings, for the most part of high grade, and also some apartment houses. This is but a beginning to the fulfillment of the idea that this locality is destined ultimately to become a great residential section. New York has been driven gradually northward by the encroachment of business. The great West Side is at last almost entirely built up, and nothing remains but to take up the march still farther north. It is obvious that Washington Heights lies directly in the path of progress and must be the first to feel the effect of the movement. The rivers on both sides of Manhattan Island form and always will form, to some extent, a barrier to the growth of the city on their other shores necessary to accommodate the increase in its population and business. There is only one direction in which this growth can occur, and that is northward.

David Stewart started in the real estate business on Washington Heights in the employ of Howard G. Badgley, in November, 1886. He remained in charge of this office until he went into business for himself in August, 1893. Mr. Stewart became intimately acquainted with Washington Heights property, and, as the especial field of his labors has since been confined to this section, he has been phenom-

enally successful. His sales have far exceeded those of any other broker in that locality, running from \$1,000,000 to over \$2,000,000 a year. Mr. Stewart does a general real estate business throughout Manhattan Island.

Mr. Stewart's office is at Amsterdam avenue, corner of 155th street, and 203 Broadway, Mail and Express Building.

The Wm. S. Anderson Co.

The Wm. S. Anderson Co., of No. 954 Lexington avenue, between 69th and 70th streets, was established by Mr. Anderson in 1868, as a firm of which he was a member. In 1895 it was incorporated as a company with Harold D. Keeler President; Wm. S. Anderson, Vice-President and Treasurer, and Charles H. Stocking, Secretary. The company has inaugurated one of the best systems yet in vogue in New York real estate. On the principle that no man can cover the Island thoroughly and familiarize himself with district investors and conditions thereof, the company opened four offices in as many sections of the city, managed by members of the company who have made that district a subject of close study. As agents they are able to transfer their clients. As brokers they can secure buyers or investments from a wide source and a large field.

Jacob Appell.

Mr. Jacob Appell, of No. 271 West 23d street, is one of the oldest realty dealers in that section of the city formerly known as Chelsea. He has been established since 1870, and his office has always been located near his present address. Mr. Appell is unquestionably one of the best judges of real estate values in the 16th and 20th Wards. He has watched with an observant eye the changes from year to year in the values of properties, and his long experience has made him a most competent broker and appraiser. His agency business is an extensive one, embracing the management of residential and commercial properties. It may be added that Mr. Appell has contributed largely to the commercial development of Tenth avenue, near 23d street.

John Armstrong.

One of the best known real estate concerns with offices in the upper section of the city is that of John Armstrong, of 1984 Third avenue, corner of 109th street. He has maintained for some years past one of the largest brokerage businesses in that section of the city and his energetic application to work has resulted in bringing him a clientele of investors who bestow the utmost confidence in him. Mr.

Armstrong combines both brokerage and agency departments in his business. He operates as largely on the West Side as on the East Side and for the purpose of better accommodating his clients he has opened an office in No. 2270 Eighth avenue, near 122d street. His agency department embraces mercantile buildings, flats, tenements and private residential property in all parts of the city.

Ashforth & Duryee.

Ashforth & Duryee was founded in November, 1896, by Albert B. Ashforth and Harvey H. Duryee. Their office is at No. 4 West 33d street. They are associated with a number of estates, among which are those of William Waldorf Astor and John Jacob Astor, whose holdings are very large in their vicinity. The name of Ashforth has been identified with these estates for the past fifty years.

Ashforth & Duryee make a specialty of business, residence and investment property above 23d street. They have played a prominent part in improving that section of the city.

Judging from the fact that they closed over one hundred leases during their first eight months of business, beside several large sales of investment property, it can be seen that they have made themselves a factor among the up-town real estate fraternity.

Franklin S. Bailey.

The real estate business which is being carried on by Mr. Franklin S. Bailey, 336 Broome street, is, probably with one or two exceptions, the oldest established real estate business in the city. In 1832, Mr. J. F. Bailey, grandfather of Mr. Franklin S. Bailey, opened a realty office in which the management of estates was made the specialty. He in turn was succeeded by Henry M. Bailey, his son, and in January, 1897, the present occupant took charge of the business. At present the brokerage and agency are combined. Mr. Bailey is devoting more time and study to the brokerage department than did his predecessors, who, to a great extent, managed estates. He is young and energetic and pays close attention to realty operations over the entire city. His clientele is of the best class—persons whose estates have been under his and his family's control for many years.

Max Bargebuhr.

Mr. Max Bargebuhr, of No. 2136 Eighth avenue, is one of the successful realty operators and agents in Harlem. He has had an experience extending over fourteen years, beginning on the East Side and dealing largely in property from Yorkville to Harlem. Coming to the West Side when the realty market, especially for experienced brokers, offered good scope for one's abilities, he remained there and

has carried on a brokerage business which he was successful in working up. Mr. Bargebuhr deals in improved property. He is shrewd and thoroughly acquainted with all New York realty. He is known widely as a careful investor, and his client's interests are always uppermost. He is one of the oldest established real estate firms on Eighth avenue in that locality.

Jesse C. Bennett & Co.

Mr. Jesse C. Bennett, senior member of the firm of Jesse C. Bennett & Co. (established in 1888), belongs to that class of energetic and skilled real estate brokers who have made New York one of the greatest real estate markets in the world. While making a special field on the upper west side, of which Columbus avenue is the great artery, Mr. Bennett operates over the entire city. His operations embrace the various forms of realty, in all of which Mr. Bennett is an expert. As an agent he manages many large estates in several sections of the city, but they are to a great extent located on the western side of Central Park. Mr. Bennett is a thorough student of realty movements and is frequently called in appraisals. His address is No. 338 Columbus avenue.

Bronn & Bronn.

The entry of Miss Cecile Bronn and Miss Jeannette Bronn into metropolitan realty circles was marked with interest, but the decided success with which the firm has met since its establishment a year ago, affords another example of woman's success in the realty field. The firm carries on a general real estate business in buying and selling, renting and collecting rents, negotiating loans, etc., in their office, No. 41 Union Square. They have made a special study of the wants of several classes of people, and they have striven to meet these in a way that augurs well for their future success. As a specialty, Bronn & Bronn have entered the field of buying and selling mining lands which are known to be as represented.

J. Romaine Brown & Co.

On the first of May, 1856, J. Romaine Brown started in the real estate business at No. 1235 Broadway. After five years he removed to 1270 Broadway, where he remained for seven years. In 1868 he moved again, this time to the south-east corner of Thirty-third street, at Broadway, and finally, in 1885, to his present office at No. 59 West Thirty-third street, under the Alpine.

In 1887 a copartnership was formed with Mr. Alexander P. W. Kinnan, the new firm being known as J. Romaine Brown & Co.

A large feature of their business is the management of estates. They have charge of the real estate of the Farmers' Loan & Trust

Co. and the Manhattan Elevated Railroad. Among the estates which they manage are those of Jay Gould, Washington E. Connor, Charles A. Peabody, Herman T. Livingston, J. Henry Livingston, Wm. F. Cochran, D. H. McAlpin and Warren B. Smith.

J. Romaine Brown & Co. also do a general real estate business. Among the sales which they have effected are those of French's Hotel—now the site of the new World Building—the property now occupied by Hammerstein's Olympia, the Morris Race Track and many large tracts in the Twenty-third and Twenty-fourth Wards for the Peter J. Shafer estate.

D. & M. Chauncey Real Estate Co., Limited.

The D. & M. Chauncey Real Estate Co., Limited, is unquestionably the most prominent real estate concern in Brooklyn. The business was established in 1843, but the present concern was incorporated in 1889 with a capital of \$150,000. They combine every branch of the real estate business and sufficient attention is paid to each department that every branch of the business is made a specialty. The members of the company are George W. Chauncey, President; Cornelius Donellen, Vice-President; Ezra D. Bushnell, Treasurer; Thos. Hovenden, Secretary. One may obtain an idea of the business status of this firm when it is learned that the largest appraisement ever made in New York, Brooklyn, or the entire metropolitan district, was made by this company in the case of the appraisal of property bordering on the East River for the Brooklyn Wharf and Warehouse Company. Their address is No. 207 Montague street, Brooklyn.

John J. Clancy & Co.

There is probably no member of the real estate fraternity on Broadway, from Bowling Green to Central Park, who has been established on that thoroughfare as long as the subject of this sketch, Mr. John J. Clancy, whose offices are at No. 1783 Broadway. In 1873, Mr. Clancy began business as a real estate agent and broker, and since that time he has proven to be a shrewd observer of the tendencies of the times, and as a result he himself has been as successful in his transactions as the latter have proved to his clients and principals. Mr. Clancy during his career has sold and resold blocks of realty which in the early days brought him one-twentieth of what they are worth to-day. He has operated on the West Side generally, and is intimately conversant with property from West 42d street to Washington Heights. His knowledge of realty in those localities is so well known that he is frequently requested to act as appraiser for various companies and institutions.

Clarkson & Edgar.

The firm of Clarkson & Edgar is a responsible realty firm which, besides buying and selling property as real estate brokers, makes a specialty of negotiating large loans. Eugene Livingston Clarkson, the senior member of the firm, possesses the confidence of many large investors and wealthy corporations and has been frequently instrumental in negotiating loans ranging from \$250,000 to \$1,000,000. He has bought and sold for New York and Boston estates, and has been transacting in New York realty circles since 1865. His partner, Herman Le Roy Edgar, has been associated with him in business since 1890. Their office is located at No. 31 Nassau street, in the Bank of Commerce Building.

Isaac K. Cohn & Co.

The firm of Isaac K. Cohn & Co., of No. 1479 Broadway, is one of the representative real estate firms operating in the upper portion of Broadway, and the adjoining districts. The firm consists of Mr. Isaac K. Cohn and Mr. Arthur S. Levy, both of whom are thoroughly conversant with realty values throughout the city. Mr. Cohn, who has been established since 1877, has negotiated extensive operations on the West Side, from 14th to 59th street. Mr. Levy has been closely identified with realty interests, especially in the downtown district, and has paid close attention to real estate movements in various sections of the city. It may be added that through the advice of this firm many old buildings have been successfully remodelled, this having been made a special feature of the business.

Collins & Collins.

The firm of Collins & Collins, of No. 566 Fifth avenue, operate largely in the most exclusive of New York realty. The firm consists of Mr. Richard Collins and Mr. Minturn Post Collins, both of whom are owners of real estate in New York and are well acquainted with present residential property in the more desirable localities. As a result, the firm of Collins & Collins operate largely on their own account. This fact, however, does not retard their general brokerage business, which is a substantial one. One of their largest transactions was their purchase of the valuable plot on which is situated the old Fourth Presbyterian Church, on 34th street, near Broadway. They have disposed of it as well as several well-known mansions on Fifth avenue. A branch of their main office is established at No. 69 Wall street.

Frederick A. Condit.

Probably no branch of the real estate business offers a wider or more attractive field for an energetic broker than the specialty of

exchanging properties. In this line Mr. Frederick A. Condit, of No. 132 Nassau street, has had a long and successful experience. For thirty years he has been connected with metropolitan realty circles, but for the last fifteen years he has paid particular attention to the exchanging of city and country real estate. His books contain some of the choicest parcels of realty on the market, and as he is an expert photographer his office is filled with pictures of properties to be sold or of those which have passed through his hands.

S. V. R. Cruger & McVickar.

The record of transactions of the business now carried on by S. V. R. Cruger & McVickar dates back as far as 1791. It then consisted of the management of lands of the Van Rensselaer family.

For years the business was managed by S. V. R. Cruger, a name which has become prominent in New York Real Estate, until some ten years ago, when Henry W. McVickar was admitted as a partner. The original office was at 182 Grand street. From that office the business grew to such an extent that it now has probably charge of more large estates than any other firm in the city. Their main office is at 187 Fulton street, with two branches, 1368 Broadway, and 246 East Houston street. The firm does also a large brokerage business. Mr. S. V. R. Cruger is comptroller of Trinity Corporation, although said corporation is in no way connected with the firm of S. V. R. Cruger & McVickar.

George W. Dakin.

Mr. George W. Dakin is undoubtedly one of the best known real estate brokers in Brooklyn. He has been identified with realty operations in that city since 1875, when he opened a real estate office and dealt in real estate generally. His operations extend not only in the city proper, but also in Kings county, and he has been particularly successful in the Bedford section. Mr. Dakin's business for the past decade has grown into the highest class of the realty business, that of brokerage, in which expert knowledge of values must be possessed. In addition, Mr. Dakin also manages estates and deals in acreage in the 29th, 30th, 31st and 32nd wards. His clients are mainly builders and private investors. His address is No. 189 Montague street, Brooklyn, N. Y.

J. Clarence Davies & Co.

The most prominent real estate concern in what is known as the Borough of The Bronx, is that of J. Clarence Davies & Co., of 149th street and Third avenue. The firm has been established about ten years, and during that time the members, J. Clarence Davies and H. L. Phillips, have become well-known members of New York's real estate fraternity. The Borough of The Bronx, where they operate offers a wide field for a brokerage business, and it can be said they

have been successful in covering it. They represent the oldest and largest estates in that section, and also maintain a very large agency business in their locality, unquestionably a credit to the firm, when it is considered the territory is comparatively new. Their branch offices are located at No. 156 Broadway, and 156th street and Westchester avenue.

Joseph P. Day.

Among the energetic younger element of New York's realty dealers who have made New York the greatest real estate market in the world, there are some whose capabilities for their position are such that in a few years they will be found in the foremost ranks. To this class Mr. Joseph P. Day, of No. 932 Eighth avenue, undeniably belongs. Endowed with an energetic nature he has succeeded in the past two years in establishing the groundwork of a future successful business. He has made a specialty of renting and collecting rents, but has already entered the higher field of buying and selling. He operates to a great extent on the West Side around Central Park. He manages the estates of Jas. J. Phelan, and also that of his father, John W. Day.

C. H. Diamond & Co.

Prominent among the real estate brokers and agents in the mercantile districts of New York, is C. H. Diamond & Company, of No. 603 Broadway, who have risen rapidly to the front and bid fair to become the largest office in their districts. Mr. Diamond is a close student of realty conditions and has perfected a system by which his concern is enabled to make records of those transactions and matters of importance which afterwards become invaluable. This concern is already one of the largest real estate agents in the wholesale district and along Broadway from Chambers street to 14th street. The fact that they have figured prominently in nearly all the important realty deals in the mercantile section, testifies in no uncertain manner as to their status as brokers and agents.

John H. Dye.

John H. Dye, real estate broker and agent, is an example of what can be accomplished with energy and perseverance. In 1877, he commenced business in a moderate way, and by strict application to, and a thorough knowledge of, the real estate business, has placed himself among the foremost in the profession. Mr. Dye was formerly connected with John W. Castree, under the firm name of Dye & Castree. Mr. Dye makes a specialty of managing and appraising property, especially on the lower west side of the city. His office is at 73 West 11th street.

Charles H. Easton & Co.

The leading real estate firm in Forty-second street is that of Charles H. Easton & Co., of No. 116 West Forty-second street. Mr. Easton has been operating in that locality since 1893. In 1897 he formed a partnership with Robert T. McGusty. The firm, as brokers, makes a specialty of that district between Fourteenth and Fifty-ninth streets bounded by Eighth and Third avenues. In that territory every sale and every realty movement is recorded, and there are no better or shrewder operators in that field. The recent great improvement of Forty-second street is in a measure due to the efforts of the elder member of the firm. As agents their properties lie all over the island, both in mercantile and residential districts.

E. U. Edel.

Mr. E. U. Edel, of 315 Madison avenue, near 42d street, is a representative New York real estate broker and agent. He has lived in this city over 30 years, and is familiar with real estate values from the Battery to Mt. Vernon and Yonkers. Formerly Mr. Edel was in the fancy dry-goods business, but recognizing that his knowledge of the city and its realty values would be of great benefit to him as a broker, he decided to enter the realty market. For some time Mr. Edel was active in real estate transactions in the upper West Side, with an office in No. 432 Columbus avenue, but in 1897 he changed his field to a more central location. He now operates not only over the whole of Manhattan Island and surrounding territory, but also in all parts of the Union. One recent sale included a public sale of property on the Potomac, below Washington. His marked success in the realty field has undoubtedly been due to his energetic application to business and an extensive acquaintance among private investors. As a broker, Mr. Edel makes a specialty of exchanges, having been particularly fortunate in this branch of business.

H. G. Eilshemius.

Mr. H. G. Eilshemius, of 265 Broadway, has been connected with metropolitan real estate in the capacity of manager of a large estate in Arlington, New Jersey. Mr. Eilshemius has converted a strip of land containing over one hundred acres, extending from Arlington proper to West Arlington, into city lots, with macadamized streets and other improvements. In this connection Mr. Eilshemius has built residences for his clients, and has otherwise beautified this suburban district. He has been connected with the development of this district for twelve years.

Austin Finegan.

Among the downtown real estate brokers Austin Finegan, of No. 7 Pine street, has succeeded in establishing a reputable and substantial brokerage business. In 1883, Mr. Finegan entered realty circles, and by his energy and faithful attention to business was soon able to transact sales of more than ordinary importance. At present he makes a specialty of tenements, flats and apartments, which he buys and sells. Besides the general brokerage business he manages estates and is a well-known agent of employers' liability insurance, and secures bonds for contractors among whom he has a wide acquaintance. Mr. Finegan, it may be added, is in a position to operate in New York realty on his own account.

J. Arthur Fischer.

Mr. J. Arthur Fischer, of No. 667 Sixth avenue, is a real estate broker and general agent. He was connected with the firm of Morris B. Baer & Co., but six years ago decided to enter the business on his own account, and his entry soon became a decided success. His brokerage and agency business has become so extensive that the field covers Manhattan Island and also a part of Borough of Brooklyn. In order to keep more in touch with realty movements in the northern part of the city, and to manage numerous properties now in his charge in that section, Mr. Fischer has opened a branch office at Lenox avenue and 114th street. As a broker Mr. Fischer is familiar with values of properties over the entire city, and his agency department embraces the management of valuable estates for prominent families at home and abroad. Loans on bonds, mortgages and insurance, also enter into his business.

Harris B. Fisher.

Mr. Harris B. Fisher is a real estate agent and broker with offices in the Wallace Building, Nos. 56 and 58 Pine street. He has been connected with down town realty since 1895, when he began business in his own name. Previously Mr. Fisher had been in the office of Mr. George R. Read, under whose tutelage he obtained a thorough and extensive knowledge of high class New York real estate. He has to a great extent made a specialty of down town property, but in connection therewith he has made many sales and transfers of residential realty uptown. Mr. Fisher is a member of the Real Estate Exchange and keeps in close touch with all realty movements.

Francis & Wilson.

The real estate firm of Francis & Wilson, of No. 353 Fifth avenue, is composed of Mr. Arthur W. Francis and Howard Wilson. The firm deals to a great extent in residential and commercial property lying between 23d street and 72d street and Sixth and Lexington avenues. As brokers, however, they operate over the entire city. Their clients consist of a desirable wealthy class of people.

Lionel Froehlich.

One of the most prominent real estate brokers operating in the elite section east of Central Park is Mr. Lionel Froehlich, whose office has been located at No. 169 East 61st street, for the past twenty years. In order to comply with numerous requests of his patrons and partly follow the tendency of residences, he has moved his offices to No. 149 Lexington avenue, between 79th and 80th streets, where he will be permanent after May 1, 1898.

Mr. Froelich is probably the oldest real estate agent in the 19th Ward, and he undoubtedly manages the principal real estate business in that district. He makes a specialty of private residences, and is peculiarly successful in securing the best class of tenants for his clients, not only in private residences, but for his flats and stores. His substantial and trustworthy reputation makes him, especially in his section, a successful medium for any transaction in realty.

John N. Golding.

John N. Golding, among the best known of New York's realty merchants, began business in 1879. He first became prominently connected with the trade as the agent of the property under the control of the Equitable Life Assurance Society. He has made a specialty of the agency of large buildings, and now rents and collects rents of the American Surety Building, Empire Building, Commercial Union Building, Queen Building, German-American Building, Schermerhorn Building and the Kuhn-Loeb Building and many other large buildings. As an appraiser and broker, especially in the residential districts, Mr. Golding ranks among the best in New York. His uptown office is located at No. 570 Fifth avenue. His downtown address is No. 9 Pine street.

Max Goldstein.

Mr. Max Goldstein, whose office is in No. 187 Broadway, has been in the real estate business in New York for the past twelve years. While he is a general real estate dealer and manages estates, makes collections and rents the houses of his patrons, yet it may be said that Mr. Goldstein pays particular attention to the exchanging of properties both in the city and in the country. In this branch of the realty business Mr. Goldstein has been peculiarly successful, due no doubt to his extensive acquaintance among investors and his own thorough knowledge of realty as an appraiser. He also negotiates loans to builders and private individuals.

Guerineau & Drake.

Of the old established firms engaged in general real estate business, none, perhaps, is better known than the firm of Guerineau & Drake, whose office is now located at No. 11 Bible House, 8th street.

between 3d and 4th avenues. They are the successors to W. L. Loew & Co., who operated extensively on the East Side, and in whose employ W. H. Drake had been previous to his entering the firm. It is now twenty-five years since the present firm commenced operations, and since that time they have been uniformly successful. Mr. Guerineau was appointed an appraiser for the East River Bridge valuations on account of his complete knowledge of property in that vicinity.

Robert W. Haff.

Mr. Robert W. Haff, of No. 189 Montague street, Brooklyn, is one of the energetic real estate brokers in that borough. He has been actively engaged in the real estate business since 1884 and has figured in many of the large and important realty transactions since that time. Mr. Haff is a broker; he buys, sells and exchanges in all parts of the United States, but confines his operations chiefly to Brooklyn and Long Island. He has been particularly successful in Long Island property, so much so, indeed, that he is considered an authority on value in that district. In connection with his extensive brokerage business Mr. Haff also attends to the agency business of his clients arising therefrom.

Wm. E. Haws & Son.

The founder of the real estate firm, Wm. E. Haws & Son, of No. 97 Cedar street, is one of the best known dealers in the New York realty arena. He is one of the few expert dealers now living forming a link with the old-time dealers whose transactions have been for many years a matter of history. In the beginning of his career Mr. Haws was a real estate broker, but for the past twenty-five years he has devoted himself almost exclusively to appraisals. During that time he has been retained by various corporations and individuals in every appraisal of importance that has occurred in the city. His values are generally accepted among high-class realty dealers as exceedingly trustworthy, by reason of his extensive experience. His son, Walter D. Haws, is now connected with the firm and pays special attention to brokerage and insurance.

K. Hayden & Co.

The development of Washington Heights property opened a wide field to real estate brokers some years ago with the result that the influx of realty operators in that district became excessive. Competition thereupon grew from a healthy stimulating factor to the extent that few were able to stand the pace and the survival of fittest followed. Among the latter is the substantial real estate firm of K. Hayden & Co., whose office is situated in 320 West 145th street. Established in 1885, both K. H. Hayden and T. J. Hayden have watched and studied and taken part in most of the realty transfers in their locality. Besides making a specialty of Washington Heights property they manage a general real estate and insurance business. Management

of estates, appraisements, collections of rents, the renting of houses, flats, stores, and every detail pertaining to a general real estate and insurance business is carried on by them.

Charles M. Heymann.

Established in 1881, Mr. Charles M. Heymann has maintained the principles of complete reliability and business integrity, to obtain the reputations of which was his goal in the early days of his career. Mr. Heymann has succeeded in establishing a substantial general real estate business, in which the management of estates, the collection of rents and the selling of real estate form a large part. His operations are not confined to any particular part of the city, for he is as equally well known below 14th street as he is in the Lenox Hill district. He is a member of the Real Estate Exchange and is looked upon as one of the shrewdest and most successful of those operating in the city. His offices are now located at No. 487 Fifth avenue.

Hugo F. Hoefler.

Mr. Hugo F. Hoefler is one of the youngest and at same time most enterprising among the builders, real estate agents and brokers in the city. Mr. Hoefler combines the building business with a large rental and brokerage business, located to a great extent in the upper section of the city. He has been well known to builders and realty dealers for the last five years. In five months he completed Nos. 302, 304 and 306 West 154th street, and at the same time was erecting four handsome flats fitted with the best improvements at 153d street and Eighth avenue. Mr. Hoefler is also making preparations to erect a block of ten flats on Eighth avenue, between 149th and 150th streets. In that locality he is a pioneer in its improvement. Mr. Hoefler is located at No. 164 St. Nicholas avenue, northeast corner 118th street.

Hopkins & Van Slyke.

Operating largely in that class of dwellings in lower Fifth avenue and in the vicinity of Washington Square, the firm of Hopkins & Van Slyke, of No. 70 Fifth avenue, has come rapidly forward into prominence during the past year. The firm is composed of J. Jordan Hopkins and E. Sheldon Van Slyke, two energetic young men who will undoubtedly enter a large field in realty circles in the near future. From 23d street down to Bleecker street on Fifth and Sixth avenues and Broadway, the firm has the renting of numerous stores and lofts, while their residential territory extends from 34th street to Washington Square in the more desirable localities.

S. A. Horowitz & Son.

The firm of S. A. Horowitz & Son has been established seven years. It is a typical New York real estate firm, operating almost

entirely in the brokerage department of that business. Mr. S. A. Horowitz, the senior member of the firm has studied New York realty in all its different conditions. He is as familiar with the mercantile district below Fourteenth street as he is familiar with the retail and residential district above that thoroughfare. Moreover Mr. S. A. Horowitz operates on his own account, and deals to a great extent in property, which after some improvement under his management becomes readily marketable. The firm is held in high estimation among downtown brokers. Their address is Nos. 60-64 Liberty street.

Hall J. How & Co.

It was about 1865 that Hall J. How founded the business to which his own name gave the title. His first place of business was at No. 12 Pine street. In 1878 the firm became Hall J. How & Co., with Thomas S. Walker as junior partner. Seven years later the business was removed to its present quarters at No. 171 Broadway. Since the death of Mr. How, Mr. Walker has carried on the business under the old firm name. Hall J. How & Co. deal chiefly in vacant lots, with building loans, although they also do a general real estate business. They are acknowledged to have been the leading lot house in New York for thirty years. Their dealings have been confined exclusively to Manhattan Island.

Louis B. Jennings.

Among the hustling and energetic real estate men for which New York is famed, Louis B. Jennings, of No. 36 West 116th street, is one of the most active. It was only in 1893 that Mr. Jennings branched out in the wide but keenly competitive field of metropolitan real estate, but in the short time he has acquired a substantial business and a reputation for honorable dealing which undoubtedly will be the best bulwark for his future business career. His experience was gained in a loan and broker's establishment, in which he became acquainted with the large operators in New York realty. By his energy and perseverance and strict observance of the theory of non-misrepresentation in the most minute detail, he rapidly won the confidence of the trade. In Harlem residential property he makes a specialty of West Side dwellings. He also has under his management a number of large estates, embracing properties in all parts of the United States.

J. N. Kalley & Son.

J. N. Kalley founded the business in Brooklyn in 1864. His son, Frederick D. Kalley, entered the firm in 1885, when operations were extended to New York, with offices at 150 Broadway, and 189 Montague street, Brooklyn. The firm has always made a specialty of exchanging large properties—more particularly high class Brooklyn dwellings and unimproved properties for New York investment properties.

Among their notable exchanges was that of the Stone Building for a large apartment house in Brooklyn, selling same building some time later to Mutual Life Insurance Company at an advance of about \$150,000; the exchange of 32 Lafayette place at \$450,000, and corner Laight and Varick streets at \$200,000 for large place at Stamford; exchange of property on Clinton avenue, Brooklyn, aggregating \$300,000, for investment properties on Warren, Washington and Wooster streets, N. Y., aggregating \$600,000; the exchange of the Celluloid Building, Washington square, valued at \$450,000, to President Palmer, of the Broadway Bank.

John J. Kavanagh.

When, in 1859, John Kavanagh opened a real estate office in Sixth avenue, near Forty-second street, that was the northern limit of the business section of the city. At that time sales and exchanges of realty were transacted almost altogether by the owners of the property themselves, so that the establishment of an agency or brokerage system seemed an uninviting experiment from a remunerative standpoint.

Despite these discouraging conditions, however, this pioneer in real estate, by his foresight and discrimination, succeeded in building up a large business. This was done in the face of what would have discouraged at the outset a less determined man. In time his son, John J. Kavanagh, became associated with him and learned in this practical school how to conduct the business that was destined some day to become his.

The present office is at 1031 Madison avenue.

Bryan L. Kennelly & Co.

It is generally conceded that the well-known real estate firm, Bryan L. Kennelly & Co., of No. 66 Liberty street, have sold in the last two years more property at public auction by order of executors and owners in the public auction room than any other firm or company in the city. The firm is composed of Bryan L. Kennelly and Henry J. Sills. Mr. Kennelly naturally is a real estate broker and auctioneer. His father was the most prominent auctioneer and real estate broker as early as 1847, and on his death Mr. Kennelly branched out for himself. Besides large business as brokers and auctioneers, the firm makes a specialty of loans on real estate and also builders' loans. From his long connection with New York realty Mr. Kennelly is one of the best known appraisers for lawyers, corporations and other institutions in the city. Mr. Sills is a son of John Sills, of the large wholesale grocery firm of Smith & Sills.

William Kennelly.

Among the prominent real estate men in this city, the name of William Kennelly, auctioneer, appraiser and broker, stands in the foremost ranks. In 1878 Mr. Kennelly entered into partnership with his father, whose business career in real estate began in 1847; a few months after, his father died and Mr. Kennelly succeeded to the entire business. Mr. Kennelly conducted one of the largest cash sales in this city—that of the Albemarle, bringing \$1,208,000. As an appraiser he is in constant demand, especially by municipal officials. His partner is Mr. William M. Lawrence, son of Judge Lawrence of the Supreme Court. They are located in the basement of Trinity Building; No. 111 Broadway.

George J. Kenny & Bro.

The firm of George J. Kenny & Bro., 80 East Houston street, is the successor to the late well-known firm of James Kenny & Son, 278 Mulberry street, which was established in 1863. Possessing a reputation of reliability and of business integrity, the present firm is one of the most favorably known in the city. It makes a specialty of the management of estates, and is particularly favored in this respect, as it is one of the very few who are agents for the old Knickerbocker families at home and abroad. The firm conducts also a large brokerage business. In addition Mr. George J. Kenny is much sought for as an appraiser, by reason of his thorough knowledge of city real estate; he is a charter member of the Real Estate Exchange.

Jacob A. King.

Mr. Jacob A. King, now located at 491 and 493 Broadway, began his career as a real estate broker at the age of 24. He had possessed himself of the necessary experience, and March 1, 1894, Mr. King opened a small office at No. 699 Broadway. By his untiring energy and strict allegiance to the motto "No misrepresentation," his name came rapidly in prominence among those interested in real estate in all its branches. Mr. King has made a specialty of real estate below 23d street and is also a fire insurance agent. His business includes the loaning of money on mortgages, buying, selling and renting property and the management of estates. He is a member of the Real Estate Exchange and Auction Room, Limited.

John P. Kirwan.

Among the real estate men who carry on a general brokerage business with the agency business that arises therefrom, is Mr. John P. Kirwan, of No. 1505 Broadway and 60 Cedar street. He operates over the whole of Manhattan Island and the Twenty-third and Twenty-fourth Wards. He is a stock member of the Real Estate Exchange, and is thoroughly conversant with realty values in New

York. Mr. Kirwan possesses a wide acquaintance among investors, builders and operators, and his knowledge of real estate is so complete that he is frequently retained as an appraiser. He maintains one of the best systems by which ownership and values, past and present, of properties can be learned for his own advantage and that of his clients. Mr. Kirwan established his business in 1890, but previous to that he was connected with real estate matters as an agent and in negotiating loans which he still continues and which is now an important feature of his business.

Henry G. Leist.

Mr. Henry G. Leist is one of the prominent real estate men operating in the upper East side of New York, in that district commonly known as Yorkville. He has been established about thirteen years in that locality and now manages a large agency business there. As a broker, Mr. Leist has extended his territory until it now covers a greater portion of Manhattan Island. He keeps himself thoroughly posted on all brokerage transactions and has studied values of realty with the result that he is now an expert appraiser. Mr. Leist operates on his own account and manages an insurance department in connection with his real estate business. He has acted as broker in many of the largest sales in the Yorkville district. His office is at 204 East 86th street.

George D. Lennon.

Mr. George D. Lennon, of No. 1915 Amsterdam avenue, has been prominently identified with Washington Heights realty ever since the movement in that direction began some years ago. To-day he is recognized as an expert appraiser in real estate there, and has acted in a large number of condemnation proceedings, both for the city and private individuals. Mr. Lennon has had over eleven years experience and during that time he has figured in some of the largest transactions. He combines an agency business with his general brokerage in which he gives close attention to the management of estates, renting of properties and the collections of rents. Mr. Lennon also negotiates loans on bonds and mortgages. It may be added that Mr. Lennon's advice on Washington Heights realty is much sought for by real estate brokers who are not in touch with the movements in that territory.

James L. Libby & Son.

James L. Libby started in the real estate business in 1884, on the upper West Side. For several years he did the largest brokerage business in dwellings in that section of the city. In 1887 he formed a partnership with Scott Bros., the name of the firm being Libby & Scott Bros. Its office was located respectively at 146 Broadway, in

the Equitable Building, and at 79 Cedar street. From the last office the firm was compelled to move on account of the building being torn down to make room for the Clearing House. Scott Bros. retired in 1891, and the firm was reorganized as James L. Libby & Son. The present office of the firm is at 69 Liberty street.

James L. Libby & Son do a general real estate business, but deal more particularly in business properties. They were instrumental in the erection of the Mutual Reserve Building, at Duane street and Broadway and the Spingler Building in Union Square. To Louis Sherry, they leased the property at Forty-fourth street and Fifth avenue, for a term of twenty-one years. On the site now stands the magnificent new Sherry Building.

James L. Libby & Son place large sums of money on bond and mortgage.

E. H. Lyons Co.

The tendency of a large number of well-known New York real estate brokers to enter the comparatively new field of realty in the Borough of the Bronx leads one to believe that it will be the centre of the real estate movement in the next few years. If such be the case, those who are well established in that locality and have been successful, possess a great future. Among that class we do not hesitate to place the enterprising firm of E. H. Lyons Co., of No. 2778 Third avenue, near 147th street. Mr. Lyons' experience in 23d and 24th Ward realty dates back over seven years. He has been actively engaged on his own account for the past year, during which time his record of sales show him to be a prominent factor in the realty market. He deals in both vacant lots and improved property.

Henry Marks.

Mr. Henry Marks, of No. 2216 8th avenue, near 120th street, has already attained a prominence in Harlem realty circles by reason of his activity as a factor in many transactions, although he has as yet not been established quite three years. The majority of his brokerage business is transacted in Harlem, from 72d street upwards, as far as the river. Mr. Marks is an untiring worker and his clients, it may be remarked, find him staunchly true to their interests, with the result that they are his permanent customers. Besides a brokerage business Mr. Marks also manages estates, collects rents and rents properties, is himself the owner of property, thoroughly reliable and financially responsible in every respect.

A. H. Mathews.

Mr. A. H. Mathews, of No. 82 Nassau street, takes rank among the old established real estate firms in this city. The business was established in 1859 by the father of the present owner of the business,

and after the death some years ago of the elder Mr. Mathews the concern fell to his son, who has successfully managed it ever since. While doing a general real estate business, the firm make a specialty of the management of estates and the renting of down-town business properties. Mr. Mathews has been particularly successful in securing for his clients a good class of tenants and has the reputation of looking out for the interests of both. His extensive acquaintance among investors and the substantial reputation of the firm, which he has maintained, renders him an excellent medium as a broker.

Linton B. Matthews & Co.

The firm of Linton B. Matthews & Co. is composed of Linton B. Matthews and J. McClennen. They are engaged in a general real estate business in all that the term embraces, the management of estates, rents collected, loans on bond and mortgage and general brokerage. The firm represents some of the best insurance companies, comprehensively known as fire, plate glass, accident, life, burglary, steam boiler and employers' liability. As real estate brokers and agents the territory covered by them lies between 59th street and Washington Heights, more particularly on the West Side. The firm, although established but a year, has succeeded in securing the agency of several well-known flats and apartment houses and a large number of private dwellings. Office, No. 59 West 125th street.

Paul Mayer.

Among the high class realty dealers in the upper portion of Manhattan Island, there are none whose operations show a more thorough knowledge of realty values than those of Mr. Paul Mayer, of No. 251 West 135th street. He has rapidly acquired a reputation among his fellow brokers as being most energetic and conscientious in his operations. Mr. Mayer combines a brokerage and agency business; as a broker he makes no special field, but maintains an intimacy with all transactions and movements throughout the city. His agency business is largely in Harlem, along Columbus avenue and the streets adjacent thereto. Mr. Mayer has a downtown office in No. 261 Broadway, by which he keeps in touch with downtown realty movements.

George W. Mercer.

The real estate business of the firm of George W. Mercer, of No. 266 West 23d street, was established in 1845. It was then carried on by John Denham, in whose employ Mr. Mercer was at that time, with whom he afterwards entered into partnership. In 1879, after the death of Mr. Denham, Mr. Mercer carried on the business in his own name. He has been greatly successful and his reputation for reliability is widespread. Mr. Mercer makes a specialty of rent-

ing houses and collecting rents, keeping the property in repair, and his class of tenants are the best. He operates chiefly in the 8th, 9th, 16th, 20th and 22d Wards. He has the management of estates which have been on his books since the establishment of his firm.

H. T. Metcalfe & Sons.

The founder of the firm of H. T. Metcalfe & Sons, of No. 171 Broadway, who, we regret to state, died a short time ago, was a widely-known resident of Staten Island. He entered the real estate trade in 1886, and besides making a specialty of Staten Island property, he succeeded in working up a moderate business in New York realty. The sons, of whom there are three, George, Charles and H. T., are energetic and shrewd operators. The firm have been instrumental in disposing of large properties on the island and have charge of Arrochar Park, on which they are building five houses.

Edmund S. Mills.

The real estate trade in this city comprises a branch of dealers who make a specialty of out-of-town property for country estates and residences. Probably there is none who has a wider or more exclusive patronage in this class of real estate than Mr. Edmund S. Mills, of 479 Fifth avenue. Mr. Mills has made this business a study for thirty years, and it is safe to say there is none more thorough, nor are there any dealers who can offer their clients such a variety and choice of out-of-town properties. Through the Mohawk Valley, in the Adirondack Woods, and the choicest scenic districts of New England, Mr. Mills has pre-eminently the best to be had. Mr. Mills also deals in high-class town property on Fifth avenue, Madison avenue, Murray Hill and Lenox Hill.

Knox McAfee.

Mr. Knox McAfee, of No. 242 West 23d street, is one of the best known and reputable real estate dealers operating in that section of the city, of which 23d street is the centre. He has been established ten years, during which time he has operated both as a broker and agent. His agency business consists of the management of estates of wealthy families, and to this department he pays special attention. The properties which are residential and mercantile are located almost entirely on the West Side. He has been particularly fortunate as a broker, his success being due to his thorough knowledge of realty values and an extensive acquaintance among investors.

James A. McCloskey.

Mr. James A. McCloskey, of No. 263 West Thirty-fourth street, is one of the live real estate agents operating in the West Side. His

field as a broker extends from Fifth avenue to the North River and from Fourteenth street to One Hundred and Twenty-fifth street. He makes a specialty of securing good sites for building investors, and his intimate knowledge of properties renders him a reliable source of information to them. As an agent, Mr. McCloskey handles nothing but a good class of residential property, including apartment houses and private dwellings and stores and lofts on Seventh and Eighth avenues. His record as a broker and agent shows him to be extremely energetic and alive in that now keen field of realty movement in New York.

Stephen McCormick.

Among Harlem's representative high-class real estate brokers is Mr. Stephen McCormick, of Madison avenue, corner East 129th street. He has been established in Harlem for the past four years, although for sixteen years previous he had been identified with builders and New York realty men by reason of his connection with the Yellow Pine Company, of Beaver street. Mr. McCormick is a general real estate broker, operating throughout the city, and manages property in all sections. He has a clientele to whom he is able to transfer some of the best realty on the market. He is most thorough and conscientious in his business principles, and never endorses a misrepresentation, however slight it may be, that may assist him in procuring a transfer or sale.

McMahon & Welch.

The enterprising real estate firm of McMahon & Welch, of No. 65 West 125th street, is composed of George J. McMahon and Charles J. Welch. Both possess a thorough knowledge of real estate values in the northern part of the city, and the records of their sales show them to be active, energetic and successful. The firm was established in 1894, and although of comparatively recent origin its brokerage business, that test of a successful broker, is one of the largest in Harlem. The field of their operations, while to a great extent located above 59th street, is, however, by no means confined in that district. A separate feature of the business is that of fire insurance, of which they have made a signal success. The firm holds the Harlem Branch of the Norwich Union Fire Insurance Society of England.

G. Nicholas.

Mr. G. Nicholas, whose main office is located at No. 1483 Broadway, manages an extensive real estate business, which comprises both a brokerage and agency department. He has been prominently identified with New York realty for the past fifteen years, and besides buying and selling for others, he operates largely on his own

account. As a broker, Mr. Nicholas operates to a great extent in the residential and commercial districts of the West Side from Fourteenth street up to One Hundred and Fifty-fifth. He has been particularly successful in finding purchasers for old business and apartment property. As an agent Mr. Nicholas manages estates from 34th street up to and along the borders of Central Park. A branch office is located in No. 617 Seventh avenue.

Joseph Oatman.

Mr. Joseph Oatman, of No. 1556 Broadway, possesses an experience extending over eighteen years in the real estate business in that section of the city on the West Side, between 34th and 59th streets. He was formerly connected with Mr. S. M. Blakely, in whose office he acquired a complete knowledge of realty values in the section referred to. In 1892, Mr. Oatman opened an office on his own account, and by his energetic application to business he has succeeded in establishing a brokerage business unsurpassed by any of the Long Acre Square brokers. Brokerage is Mr. Oatman's specialty, and as an appraiser in the locality named he cannot be improved upon.

J. H. Oeters & Co.

Real estate dealers on the West Side from 29th street northward are reputed to be the most active in the metropolitan realty arena. Prominent among the active firms is that of J. H. Oeters & Co., of Central Park West, and 104th street. Mr. Oeters has divided his business under two heads. The brokerage business, over which he has control, and which made him prominent in many realty transactions, particularly in Harlem. His son, Henry M. Oeters, a member of the firm, has charge of the collection of rents, renting and management of estates. Mr. J. H. Oeters has dealt largely in improved property as well as unimproved, the latter of which he has been particularly fortunate in disposing to builders, by whom he is considered a high authority in real estate matters. Mr. Frederick Schlueter is also an active member of the firm.

Pease & Elliman.

The comparatively new firm of Pease & Elliman, 532 5th avenue, are the successors of the oldest real estate business in that district. Both members of the firm, Lawrence B. Elliman and Walter A. Pease, Jr., are energetic young men and thoroughly experienced in metropolitan realty. They make a specialty of 5th avenue general real estate, and have done one of the largest businesses in their neighborhood during the past year in renting and selling. They have already many large estates on their books, and their extensive acquaintance in that district will doubtlessly add much to their success. The office is centrally located, opposite Delmonico's. Mr. N. W. Riker, of the old firm, is still associated with the new firm of Pease & Elliman.

R. Pehlemann & Son.

The firm of R. Pehlemann & Son, of No. 493 Columbus avenue, is one of the oldest real estate firms in the city, having been established in 1868. The firm, which consisted of Rudolph Pehlemann, operated in East Side property in the commencement of its career, with the office at 57th street and at 55th street and Third avenue. From there he moved to 14th street, but seeing the possibility of Columbus avenue as a mercantile thoroughfare, he moved to that locality. The firm now makes a specialty in corner property, both mercantile and residential. It has unquestionably made larger sales in that class of realty than any other dealer in competition in that locality. Besides this specialty the firm does a large general brokerage business on the West Side and the upper West Side. Rudolph Pehlemann, Jr., is associated with his father as his partner. The firm also manage estates, which have been in their control for many years.

Pell & Sutphin.

Although the firm name of Pell & Sutphin, of No. 509 Fifth avenue, is comparatively new in New York real estate circles, yet the individuals composing it are men long and most favorably known to the trade. The firm is composed of H. Archie Pell, S. Osgood Pell and William L. Sutphin. A partnership was formed on January 1, 1898, between Mr. S. Osgood Pell and William L. Sutphin, and subsequently H. Archie Pell, the well-known real estate dealer, entered the partnership, thus giving it additional strength. Each member is a specialist in the various branches of the realty trade, and there is no question but that the firm will become an important factor in Metropolitan real estate circles. The estates formerly managed by the individual members of the firm consisting of high class realty in all parts of the city are now managed under one department. Brokerage and loans are also specialized, thus affording better results to all concerned.

L. J. Phillips & Co.

The real estate firm of L. J. Phillips & Co. was established in 1876. It is one of the large expert real estate firms in this city, combining an extensive brokerage agency and auctioneering business. The members of the firm are Louis J. Phillips, senior, D. L. Phillips and Lewis Phillips. The founder of the business, Mr. Louis J. Phillips, senior, is recognized as one of the leading experts in New York realty. His knowledge of values has been frequently called to the aid of the city, corporations and private individuals in all the large appraisals made for many years past. As brokers the firm operate over the entire Manhattan Island and in the Twenty-third and Twenty-fourth Wards. As agents, it manages many large estates, both regarding the renting and collections of rents and their entire supervision. The downtown office is located in No. 158 Broadway and the uptown office at 72d street and Columbus avenue.

Homer W. Presdee.

Among the representative real estate dealers in the upper portion of the West Side of the city is Mr. Homer W. Presdee, of No 401 West 59th street. Combining an agency and brokerage business, Mr. Presdee is regarded as one of the best operators in the locality which he covers. He devotes more of his time and study to the brokerage department, however, than to the agency business. He has maintained a close relationship with all realty movements in the upper West Side, and his advice, both in matters of appraisals and the choice of sites for business or residential purpose, has been much sought for by investors. Mr. Presdee has frequently acted as appraiser for private individuals and corporations.

The William P. Rae Co.

The William P. Rae Company was incorporated under capitalization of \$50,000 in 1890, to continue the general real estate business in the management of property and estates, and auctioneers in Real Estate Exchange. Mr. Rae, who is president of the company, while a young man, has been established as broker and auctioneer in Brooklyn since 1879.

This company, aside from their large clientele in the management of property, have been most active in the management in the development of Sea Gate, transforming what was known as Norton's Point into a most beautiful select seashore resident settlement. The company is represented in the directory of the Norton Point Land Company, New Utrecht Improvement Company, and Sea Gate Improvement Company. The business offices are located at 203 Montague street and 394 Gates avenue, Brooklyn.

Thos. L. Reynolds & Co.

The firm of Thomas L. Reynolds & Co., of corner of Lenox avenue and 135th street, is one of the largest operators in West Side Harlem property. The business was established by Mr. Thos. L. Reynolds in 1886, and was conducted for some time at Columbus avenue and 104th streets. Mr. Reynolds has sold a very large amount of property from West 59th street along the Heights, and on West Side avenues and the adjoining side streets. His business done for the past decade has netted him commission and profits of \$40,000 to \$60,000 a year. As an agent, he manages property in the locality covered by himself as a broker. Mr. Reynolds operates largely on his own account and is known to be one of the shrewdest of our Harlem operators.

T. B. Robertson.

Mr. Thomas Brand Robertson, whose office is located in the Mutual Bank Building, corner Eighth avenue and Thirty-fourth street, possesses an actual experience of over twenty years in New

York circles. During his career he has merited and maintained the confidence of a large clientele in his management of estates, as an agent, executor and in other fiduciary capacities. Mr. Robertson has a keen appreciation of values, and in his long experience has successfully negotiated for investors and corporations many large and important transactions. He is also agent for several insurance companies, also conducts a general insurance brokerage business.

Douglas Robinson & Co.

Of the many real estate firms in New York, that of Douglas Robinson & Co. has always been considered in the first rank, both on account of the large amount of city property which changes hands through their offices, and because of the large estates in New York which they manage. They also pay special attention to the appraisal of city property. Mr. Douglas Robinson, the senior member, has a large acquaintance among the best class of investors, and the firm is thoroughly equipped for the transaction of business through their two large offices at 55 Liberty street, corner of Nassau, and at 500 Madison avenue, corner of 52d street. The junior member is Mr. Frederick Winant, who has charge of the uptown office.

Wm. J. Roome.

The real estate business carried on by William J. Roome, at 410 6th avenue, is one of the oldest in the city, having been established in 1852, by the father of the present proprietor. Mr. Roome entered his father's firm and studied New York real estate in all its branches. On his father's death, the firm became known as W. H. Roome's Son, which was afterwards changed to W. J. Roome. Mr. Roome pays special attention to transactions with investors and investment property. His knowledge of real estate is so widespread that he is in constant demand as an appraiser for institutions and the legal fraternity. Mr. Roome is one of the founders of University Heights, and is a graduate of the University of the City of New York, of the class of '78.

Ruland & Whiting.

The list of well-known New York real estate dealers would not be complete without the name of Ruland & Whiting, of No. 5 Beekman street. This firm has been established for over thirty-one years in its present location. It has sold a large amount of valuable land in the office district, from Wall to Duane street, although its operations have by no means been confined to this district. The members of the firm are Manly A. Ruland, William H. Whiting and Irving Ruland; the latter is a member of the Real Estate Exchange and Board of Brokers, while Mr. Whiting is a member of the Exchange and Treasurer of the Metropolitan Realty Co., having its office with this firm.

Charles E. Schuyler & Co.

Mr. Charles E. Schuyler, of No. 967 Boulevard, it is generally conceded, is the most prominent real estate dealer in the upper west end of the city. His first office was located at 71st street and Columbus avenue, when houses were most scarce in that locality. He was the first in that field, and to his efforts much of the rapid and solid development of Columbus avenue and adjacent streets is due. A few years ago he entered again as a pioneer in Morningside Heights realty and has contributed greatly to the development in high class residential property along Riverside Drive, West End avenue, the Boulevard and Morningside. Mr. Schuyler's knowledge of values in that locality is so thorough that his appraisals are considered as final. The business is now conducted under the firm name of Charles E. Schuyler & Co., incorporated, near 107th street.

Sharrott Brothers.

Among Harlem's high class real estate brokers is the firm of Sharrott Brothers, of 2164 7th avenue, near 128th street, from whence they removed May 1st to more desirable and accessible quarters, 2088 7th avenue, near 125th street (Hotel Winthrop). Chas. F. Sharrott and Frank R. Sharrott compose the firm, and operate both a brokerage and agency business. Mr. Charles F. Sharrott makes a specialty of the exchange of properties, in which branch he is quite successful, while Frank R. Sharrott gives attention to the sale of vacant lots with loans to builders. The renting department is in charge of Edgar Sharrott, who acquired his knowledge of this branch of the business through an apprenticeship of several years in a prominent downtown office. The field where the firm has operated to a large extent, is in upper West Harlem and Washington Heights. Both members of the firm are men of sound business judgment and integrity.

They are thoroughly conversant with realty values in the districts where they specially operate.

Henry W. Sherrill.

Prominent among Brooklyn's realty dealers who have contributed to the development and settlement of some particular portion of the city of Brooklyn stands Henry W. Sherrill, whose main office is located in No. 13 Willoughby street, Brooklyn. Mr. Sherrill is both a broker and agent but it is by reason of his successful management of the large estate of John Leffert that he is so prominently identified with Brooklyn real estate matters. In the Twenty-ninth Ward adjacent to the beautiful Prospect Park, Mr. Sherrill has developed the property, sold lots on which modern houses of the highest type have been erected, and by his wide acquaintance among investors has succeeded in procuring purchasers for the buildings. He is a thorough student of the trend of realty movements, and his advice in matters of investment in property is much sought.

T. W. Shotwell.

Among the careful and considerate real estate brokers operating to a greater extent in Harlem than elsewhere is Mr. T. W. Shotwell, of No. 291 Lenox avenue, near 125th street. Mr. Shotwell has a long experience in New York realty, an experience extending over fifteen years, and his knowledge of the fluctuations in values of realty and its present value is of the highest type. He operates generally above 72d street, although he frequently transacts sales below 14th street, as his records will show. He is a successful broker mainly because he keeps in touch with the market and knows what can be sold and with whom the property can be best placed. His clientele embraces many builders and private investors. Mr. Shotwell is an energetic broker, and is thoroughly conversant with all matters pertaining to real estate.

E. de Forest Simmons.

Mr. E. de Forest Simmons, of No. 1 East 58th street, is a real estate broker and agent. In the former branch of the business Mr. Simmons operates for his wealthy clients in residential property and business property for investment. In this line he has secured in realty investments large amounts of funds, not only for New York investors, but also for Boston and San Francisco clients. In connection with a partner, he sold the site of the American Surety Building, on Pine street and Broadway, a sale involving one and one-half million dollars. As an agent he handles desirable properties in Fifth avenue, Murray Hill and Lenox Hill. He is a careful and painstaking business man and has frequently figured in some large transactions.

Allen W. Smith.

Allen W. Smith, No. 252 West 14th street, has completed extensive alterations to his building, No. 252 West 14th street, one door east of Eighth avenue, and has removed his office thereto, where he has largely increased facilities for leasing, renting, collecting, selling, managing and exchanging all classes of real estate, and of effecting loans on bond and mortgage. A renting experience of twenty-eight years, the last eighteen of which he has rented and is still renting property of different branches of the Astor estate, may be considered a sufficient guarantee of his integrity and ability. It can be readily seen that all property placed in Mr. Smith's office for renting, collecting or management will receive the full benefit of a long experience and perfected methods. He has also secured the agency of many of the best and most reliable insurance companies, and he is, therefore, in a position to make the most favorable terms on all classes of insurance—fire, life, accident and plate-glass. He has made it a special point in his business that all orders, delivered personally or by mail, for selling, buying, exchanging or renting

property, or for insurance, or for loans on bond and mortgage, shall be promptly attended to.

Frank E. Smith.

Mr. Frank E. Smith, of No. 35 Nassau street, has been connected with the projecting element both in real estate and general contracting in New York for the past eighteen years. During that time he devoted himself to building on a speculative basis. He built, to a great extent, in Harlem. For the past few years he has paid particular attention to realty movements below Forty-second street, between Eighth and Third avenues. He makes a specialty of promoting new buildings, and his advice is sought for when a firm or corporation are contemplating improvements, particularly in the mercantile districts, between Twenty-third and Forty-second streets. His wide experience in real estate greatly aids him in procuring and influencing investments.

Thomas C. Smith.

Mr. Thomas C. Smith is a real estate broker and appraiser. Mr. Smith belongs to the higher class of realty brokers in New York, who have made New York realty a subject of research and study with result that they have become experts in values. Mr. Smith has been prominently identified with realty transactions since 1886. He has made no special district his field of operations, but has covered the entire island, from the Battery to High Bridge. There is probably no ward in New York proper in which Mr. Smith has not sold or purchased property. In appraisals he has very frequently been called to act for owners and corporations in all parts of the city. His office is in No. 111 Broadway.

Stabler & Smith.

Among the old and well established firms operating on Columbus avenue the firm of Stabler & Smith, of No. 674 Columbus avenue, ranks high, not only in the comparative duration of its establishment, but in the amount of business done. The firm is composed of Mr. Walter Stabler, whose office for some time was located downtown in the mercantile district, and Mr. L. M. Smith. Both are practical and experienced real estate men. They make no distinctive specialty in their business, combining their brokerage and agency departments, and giving each their proper share of attention. In the brokerage department they number among their clients builders, private and corporate investors, while as agents they manage apartment houses, stores and tenements along Columbus avenue and side streets. The firm has been established eight years.

John B. Streeton.

There is a branch of the real estate business which confines itself almost exclusively to the renting of mercantile buildings, offices and lofts. In this branch there is probably no larger operator than Mr. John B. Streeton, of No. 152 Broadway. Mr. Streeton has had an extensive experience in this particular line of the realty business and is thoroughly familiar with its details. The field in which he operates lies downtown below Houston street, in which he has a large number of stores, offices and lofts, and of many of which he has full control. On so large a scale does he transact his business that there is no question but that he is able to fill the wants of a client, no matter what the conditions and circumstances are. The business, in which he himself has had over twenty-four years' experience, has been established forty years.

Strong & Ireland.

This well-known firm of realty brokers was established in June, 1894, the copartnership being formed of Mr. J. Montgomery Strong and J. de Courcy Ireland. Each had possessed a thorough training and ripe experience necessary for a downtown real estate dealer. The firm was able to combine all features of the real estate business. As brokers they operate over the entire Island and are able to give expert testimony in appraisals. Their agency departments are no small feature of the business of managing estates and collecting rents in different parts of the city. They keep a record of every sale, transfer, lien or mortgage filed, so that they are intimately in touch with every movement. Their address is No. 60 Liberty.

F. G. Swartwout & Co.

F. G. Swartwout & Co., of 157 East 125th street, have been operating in New York realty for the past twenty years. The company have an extensive brokerage business throughout the entire city, although to a great extent they have operated in the Twelfth, Twenty-third and Twenty-fourth Wards. In Harlem, Westchester county and New York's annexed district the company are particularly well-known, and manage a large portion of a desirable class of property in those locations. As agents they rent and collect rents of estates throughout the city. F. G. Swartwout is a member of the Real Estate Exchange of New York and is considered a shrewd realty operator. The company study all sales, transfers and realty movements and are thoroughly well posted in values of properties. Mr. F. G. Swartwout is very frequently retained by civic authorities, institutions and corporations as an appraiser in their behalf.

Thomas & Eckerson.

Among the highest class real estate firms in the city is that of Thomas & Eckerson, of No. 35 West 30th street. The firm is com-

posed of William H. Thomas and John C. R. Eckerson, both of whom are highly esteemed in New York realty circles. The partnership was formed in 1880, and since that time the firm has been engaged in an extensive brokerage and agency business, and also manages an insurance department. As brokers, the firm makes no special field nor deals in any particular kind of realty; the records of their sales show the properties to be located from the Battery to Harlem. Thomas & Eckerson have made a specialty of the management of estates.

Thompson & Pryor.

The firm of Thompson & Pryor succeeded that of John M. Thompson & Co. six months ago. It is composed of John M. Thompson and S. Morris Pryor, formerly a partner of D. Phoenix Ingraham & Co. The business of the firm consists of expert brokerage appraisals and auctioneering. Mr. Thompson is a thorough student of high-class realty movements and operates among the best class of investors. He has made a particular study of the mercantile realty below 14th street. In this market he is an authority and is frequently consulted by fellow brokers before transactions are completed. He is a member of the Real Estate Board of Auctioneers. Mr. Pryor is a practical real estate man of wide experience and is well posted in all realty movements. Their address is No. 7 Pine street.

W. W. Thompson.

Mr. W. W. Thompson, whose office is located in the National Park Bank Building, Nos. 214 and 216 Broadway, is a representative real estate dealer of this city who has accumulated a large and valuable record of transactions covering many years. He was a client of the late E. H. Ludlow and Homer Morgan, and his knowledge of values particularly in residential quarters of New York is most authoritative. Mr. Thompson pays special attention to his brokerage and appraisal departments, for these he regards as the most important features of his business. He is a Commissioner of the Bureau of Street Openings. Mr. Thompson is a successful operator having been buyer and owner by inheritance of many properties on Murray Hill, the lower Wall street section and tracts of land now a portion of Greater New York.

A. E. Thomson.

Among the brokers who are known to buy and sell large parcels of land and high-class improved realty in Harlem, Mr. A. E. Thomson, of No. 29 East 125th street, is undoubtedly one of the most prominent. Mr. Thomson has been established four years in business on his own account, although his active experience in Harlem property antedates that period by several years. Mr. Thomson makes a specialty in his general real estate business in that he finds himself

peculiarly adapted for the selling and exchanging of realty. He deals, to a great extent, with heavy operators. He knows Harlem realty values, as a large operator must of necessity know them, and his personal qualities as a broker make his transactions nearly always successful. He negotiates building loans and advances money on bond and mortgage.

Stephen H. Tyng, Jr.

Stephen H. Tyng, Jr., is one of the prominent members of the real estate profession. Eleven years ago he opened his first office at 25 Pine street, which he still retains as a branch office. His headquarters at the present time are in the Hartford Building, No. 41 Union square West. Mr. Tyng confines himself to the care and management of estates, and deals in high-class business property exclusively. His name has been connected with many large operations. Among his transactions was the sale for Meyer Kahn of the Daniel Drew property, at the corner of 17th street and Broadway, to the Wadsworth estate. Subsequently he was responsible for the tearing down of the old Drew mansion and the construction and the leasing of the new Hartford Building on that site, notable as a particularly successful uptown office building. Mr. Tyng's clientele is one of the largest and wealthiest in the city.

S. R. Walker.

Among the enterprising real estate men operating extensively across the Harlem River, Mr. S. R. Walker, of No. 748 East 138th street, ranks undoubtedly among the foremost. To his efforts the rapid development of real estate values of that section both in its residential and business districts above 125th street on the East Side is mainly due. He is in intimate touch with the many investors, builders and architects interested in that locality and his thorough knowledge of realty values often directs realty movements. Besides his large brokerage business, Mr. Walker manages an agency department in which the care and full management of business and residential property enters. He also negotiates mortgages and is an expert appraiser in the many classes of properties. Possessing branches in different sections he keeps well in touch with the demands of his clients.

S. de Walltearss.

Mr. S. de Walltearss, of No. 171 Broadway, is one of New York's largest downtown realty operators. By the term "downtown," it is not meant that such real estate men that deal only in property in the lower end of the city, but it is in that portion of New York where large deals are generally consummated. Such dealers are recognized as experts in realty and to this class Mr. de Walltearss certainly belongs. He has been connected with New York real estate since

1866, when he formed a partnership with B. P. Fairchild, who at that time was a heavy operator and realty agent. This partnership was continued until 1888, when Mr. Fairchild's interests were withdrawn. In 1895, a co-partnership was formed between Mr. de Walltearss and David Rothschild, which continued until 1897, when the latter withdrew. Mr. de Walltearss has been prominently identified with the Real Estate Exchange since its inception; he has long been a director and is now secretary of the Exchange.

James Walsh.

Mr. James Walsh, real estate broker, of No. 222 West 116th street, has been permanently identified with upper New York's realty interests for the past nine years. For the last three years Mr. Walsh has confined his efforts entirely to the brokerage department of his business and has been, as is shown by the records of his sales, one of the foremost brokers above 72d street. The scene of his operations has been in both the East and West Sides of the territory named, and as Mr. Walsh in the beginning of his career as a real estate merchant bought and sold on his own account he enjoys a large clientele of the better class. He is an energetic and untiring worker, as may be judged from the fact that he made 25 large sales of separate properties last year.

A. Ward.

Mr. A. Ward, a pioneer in the real estate business of the lower west side, is still one of the foremost real estate dealers and appraisers, not only in the district named, but throughout the island. Mr. Ward has been established thirty-three years, with his office at the address now occupied, No. 516 Ninth avenue. In the beginning of his career he took charge of the Cairns and Ward estates, of which Mr. Fred D. Tappen is still the trustee. One of Mr. Ward's main personal business is the appraising of property located in all parts of the city for various institutions, firms, individuals and corporations.

Ware, Gibbs & Card.

The firm of Ware & Gibbs, of No. 451 Columbus avenue, consisting of William R. Ware and Albert E. Gibbs, has been in the real estate business, as a firm, four years. Each had an individual experience in realty circles previous to the copartnership, and formed an extensive acquaintance among property owners. They have made the collection of rents and renting their specialty, while they transact the brokerage business, which necessarily follows, as an issue. Columbus avenue property, from 59th street as the southern limit and along the parallel avenues, is the location of most of the property over which they have control. The firm is one of the most reliable in that territory and number among their clientele a large proportion of prominent property holders. Jas. Vandyke Card, who recently joined the firm, has also been an operator and broker for 20 years.

Whitehouse & Porter.

Although the firm of Whitehouse & Porter is a new one in name, it is really a continuation of an older business. Mills, Whitehouse & Hall was founded in 1890, with an office at No. 17 East Forty-second street. A couple of years later the firm was re-organized as Mills & Whitehouse, their office being located at No. 503 Fifth avenue. This firm, in its turn, was succeeded, in 1896, by Golding & Whitehouse. Last year the firm became Whitehouse & Porter, with offices at 509 Fifth avenue and 1 Nassau street.

Whitehouse & Porter deal principally in Fifth avenue property and in high class dwellings and unimproved lots in the vicinity of the avenue. They sold No. 871 Fifth avenue to Mr. A. L. Barber for \$572,500, the largest sum ever paid for a dwelling in this city. Other large sales which they have made are No. 8 East Sixty-ninth street to Mr. W. D. Sloane; and the Langdon place, at Hyde Park, to Mr. Frederick Vanderbilt.



No. 241 WEST 72d STREET.

Chas. Buek, Architect and Builder.

OPERATING ARCHITECTS, BUILDERS, AND REAL ESTATE MEN.

Philip Braender.

There has been probably no heavier builder and real estate operator in the past twenty years than Philip Braender, of No. 47 West 125th street. He has built extensively on the East Side during the years 1877 to 1892, and has also built large fire-proof business structures below 14th street. During the last six years he has erected a number of buildings on the West Side, from 100th to 125th street. Mr. Braender began as a mason builder in 1871, continuing in the contracting line until 1877, when he saw the advantages of building for the market, and he grasped the opportunity. An idea of his work may be gained when it is said that there is scarcely a block from East 63d street to East 125th street where he has not erected houses for the market. Mr. Braender is a mason by trade, and has erected, since 1877, over 1,500 private houses, apartments, flats and fire-proof buildings throughout the city.

Charles Buek.

Mr. Charles Buek is the successor to the once well-known firm of Duggin & Crossman, which dated its foundation to back before the war. He became connected with this firm in 1870 and remained with it until its dissolution nine years later. Duggin & Crossman built exclusively on the east side of the city, and had a wide reputation, both on account of the quantity and the quality of their work.

Mr. Buek remained in business alone as their successor for about two years, then, in 1881, he founded the firm of Charles Buek & Co., with Mr. Charles Duggin, the head of the old firm, as special partner. Mr. Henry F. Cook, who had also been connected with the old firm, became another partner.

The new firm confined its work to that portion of the city along Lexington avenue and in the neighborhood of 36th and 37th streets, and on Madison avenue up as far as 68th and 69th streets. Among other residences which it built at the time, were those of Charles A. Dana, Geo. G. Moore, Charles F. Clark, of "Bradstreet's" on Madison avenue; John A. Stewart, president of the United States Trust Co., and Charles M. Fry, president of the New York Banking Association on Lexington avenue.

In time it became plainly apparent that the East Side was being

rapidly exhausted and that no more lots remained to be built upon, so a change of base was decided on and in 1887 the firm moved the field of its operations to the West Side. They built extensively on 72d street, and in all that section lying about it, participating in the great building boom which occurred in that vicinity eight or ten years ago.

In connection with the building operations of Mr. Buek on the East Side, it is interesting to note the change that has taken place in the value of real estate in that portion of the city. New Yorkers have come to look upon Fifth avenue as such an established fact that they naturally disassociate it in their minds with any such rapid advance as is called to their mind by the mushroom growth of the upper West Side.

Yet only twenty-five years ago building lots 25x100 on Fifth avenue, below the Park could be bought for \$25,000, while those off the avenue and in the side streets, like 51st and 52d, brought \$15,000. Practically the same proportion is preserved to-day, though with vastly larger figures. At the present time a lot in the avenue is worth perhaps \$100,000, and one on an adjacent side street about \$60,000. It was only recently that a lot facing the Park by 64th street, sold for over \$130,000.

Mr. Buek has hitherto built only private dwellings and apartment houses, and those of the highest class, but is now engaged in the erection of a nine-story business building at No. 64 Fulton street, and intends hereafter to give attention to fine mercantile building.

He has also erected several stables to order, notably those for D. O. Mills, W. S. Gurnee, and Harvey Fisk.

Harry Chaffee.

Among the merchant builders of New York there have been none whose operations have been conducted more successfully than those of the subject of our brief mention, Mr. Harry Chaffee, whose office is now located in one of his handsome structures, that in No. 29 East 19th street. Mr. Chaffee has built extensively in the mercantile section of the city, and also in the residential sections. His projections have shown him to be a complete judge of realty values in New York, and the style of the buildings erected on the sites chosen have been exceedingly appropriate. He has built several store and loft buildings, which have been finished with the latest and best improvements.

Francis Crawford.

Mr. Francis Crawford is one of New York's most extensive builders. He has been connected with the projective element for the past thirty-four years, and has practically lined streets with houses of a class that is a credit to the builder and the community. In the upper West Side, in that locality of which 72d street is the centre, was the principal scene of Mr. Crawford's operations. He built al-

most entirely private houses, and the ready sales testify to the workmanship and style of houses built. In West 72d street he erected twenty-eight houses and six in East 72d street, bringing on sale about \$2,500,000. In West 89th street, between Central Park West and Columbus avenue, Mr. Crawford built nineteen houses, besides many other magnificent residences in various localities on the East and West sides of the city. His success attested his great skill as a builder of high class houses and demonstrated his perspicuity and excellent judgment in the selection of localities free from objectionable elements and well adapted for dwellings of a superior character.

George C. Edgar's Sons & Co.

The founder of the firm of George C. Edgar's Sons & Co. was Mr. George C. Edgar, a builder whose reputation for high-grade work has since been well maintained by his sons, George and Thos. C. Edgar, and since March, 1894, Theodore and William Kilian. In 1889 the firm assumed its present name, and it has, to a great extent been instrumental in building up the West Side from 69th street to 95th street. It is a low estimate to state that the firm has built one hundred and seventy-five private houses of a substantial type. The best example of their work is No. 228 West 72d street, a house which has few peers, and none better in that section of the city. Their greatest work, which will be completed October 1, 1898, is an immense apartment house in Central Park West and 88th street, costing \$550,000 for the buildings alone.

James A. Frame & Son.

Among the builders who have operated on their own account, by which we mean the construction of buildings for sale, the firm of James A. Frame & Son, of No. 107 East 70th street, has always been regarded as one of the most substantial and of the best type. Mr. James A. Frame has long been connected with the building trade in New York and during his thirty years' connection he has erected many of the costly residences and apartments located in upper residential section of the west side. His son, William H. Frame, who became associated with his father eight years ago, is also a practical builder with a wide experience. The structures erected by the firm of James A. Frame & Son have exemplified in them the best of workmanship and the ready sales which greeted the firm testified to the appreciation of this fact by the purchasers. The well-known Princeton and Palisade apartment houses on 56th and 57th streets respectively, between Eighth and Ninth avenues, were both built by this firm. For the past ten years the firm built on the west side chiefly, between Central Park West and Columbus avenue. In 69th street, between the avenues named, five private houses were erected, selling for \$52,000 each; in 85th and 87th streets, five houses sold for \$37,500; in 71st street, between Boulevard and West End avenue, ten houses were erected, selling for \$30,000.

Thomas Graham.

Mr. Thomas Graham, of No. 1238 Madison avenue, is an architect and builder who has been very prominently identified with the growth and development of the upper portion of the Island of Manhattan. To him and other large merchant builders belongs in no slight measure the credit of having developed the section referred to and afforded the waiting capital of this and other cities a profitable investment in New York improved realty. Mr. Graham individually and in connection with a company known as the C. Graham & Sons has been largely instrumental in the building of now well-known streets and in the construction of some of the largest hotels and residences in all parts of the city. The Holland House, corner of 30th street and Fifth avenue, was built by the company, and is one of the important contracts completed by them.

He began the study of architecture in the office of Jardine & Thompson shortly before the civil war. On its breaking out his patriotism called him to the front, and, having served his country faithfully through the entire war he came back to New York and began again his study, this time at the bench in his father's carpentry shop. In the flush times succeeding the war, when throughout the North handsome structures were being erected, the firm of Graham & Sons became probably the greatest stairbuilding concern in the New World. The designs were draughted by Mr. Thos. Graham and their execution was superintended by him. When the handsome factory on 43d street, east of Third avenue, still owned and operated by The C. Graham & Sons Company, was to be built, it was Mr. Thos. Graham who drew the plans and superintended its erection.

At this time the building movement in New York was becoming of great proportions, and Mr. Graham decided to enter the field. He built in conjunction with his father and brother a number of high class residences in 78th, 79th and 80th streets, adjacent to Fifth and Madison avenues, in the locality generally known as Lenox Hill. The Graham Hotel, designed by Mr. Graham, located on the corner of 89th street and Madison avenue, was built, involving an expense of \$300,000. In 1882 he designed the addition to the Madison Avenue Hotel on the corner of 58th street and Madison avenue, which cost in the neighborhood of \$200,000. In the Lenox Hill district the residences built and designed by Mr. Graham were of the best and most expensive type, one of which subsequently sold for \$200,000 and another, since purchased by ex-Mayor Grace, brought \$150,000. Another of Mr. Graham's compositions is No. 23 West 57th street, a residence sold for \$225,000.

Mr. Graham has been particularly fortunate in his compositions of apartment houses and flats. Many of his designs have been used in structures of prominent merchant builders, who also have sought his advice. The large apartment house recently purchased

by President of the Council, R. Guggenheimer, northwest corner of 111th street and Seventh avenue, was planned by him; also six private dwellings in East 82d street, near Madison avenue, now in course of erection, and a fine residence for Dr. Geo. H. Butler, No. 964 Fifth avenue.

W. W. & T. M. Hall.

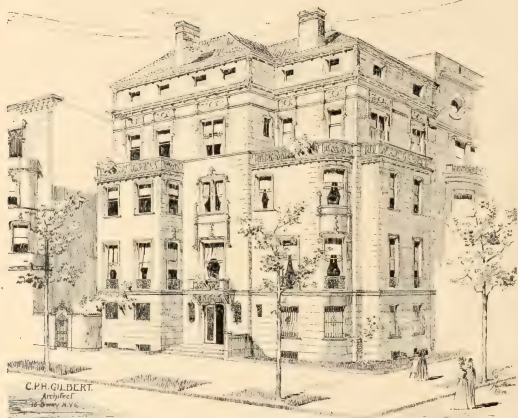
Probably the best known of New York's builders who are operators in what is termed speculative building is the firm of W. W. & T. M. Hall, of 503 Fifth avenue. This firm has built largely in the most desired locations, have never given a promise to pay on the termination of any contract and undoubtedly stand alone to-day in the position of purveyor of the best class of private houses built purely on a speculative basis. Much of this firm's success is due to the fact that they employ none but the best architects, who specify the most modern conveniences, and, lastly, none but the best material and workmanship are permitted. A few of the lately constructed houses are as follows: eleven dwellings in West 70th street, nine in West 87th, nineteen in West 69th; also, between Madison and Fifth avenues; two in 73d street, six in 76th street, and two in 80th street.

S. Haberman.

Mr. S. Haberman, of No. 1919 Seventh avenue, is one of the large builders who have made Harlem the scene of speculative building for some years past. Mr. Haberman has erected a substantial class of buildings, which are to a great extent flats. He is a builder of eighteen years' experience, and during that time he has built largely from 49th street northward, keeping pace with the movement up-town. Ten years ago he built six double flats on the corner of Eleventh avenue and 48th street; in 121st street, between St. Nicholas and Seventh avenues, nine private houses and one double apartment house adjoining; between Lenox and Seventh avenues in 116th street, seven houses, which sold for \$315,000; in Manhattan avenue and 116th street, Mr. Haberman built fourteen houses, involving an expenditure of \$450,000; the Manning, a modern seven-story apartment house and three five-story flat houses as an annex, the whole selling for \$400,000.

A. B. Kight.

Among the architects who have made the upper portion of the West Side of Manhattan Island their particular field of architecture, none perhaps have accomplished so much for the general appearance of that district than the subject of our sketch, Mr. A. B. Kight, of No. 102 West 81st street. Mr. Kight has designed largely on the extreme west of the island, generally west of West End avenue.



RESIDENCE GEORGE H. MACY, ESQ.
74th Street & Riverside Drive.

C. P. H. Gilbert, Architect.

Harvey Murdock, Builder.

His compositions are remarkably suitable and fortunate in design, particularly so when one considers the conditions surrounding that beautiful residential section. Mr. Kight has ample evidence of this fact proved by the ready sales of the structures completed by him, and his rapidly growing clientele, for whom he designs and builds on contract. Mr. Kight entered the sphere of New York architecture in 1891. He at once became familiar with the conditions and demands generally met with in the construction of residences in the section referred to, and studied the styles of architecture best adapted for those conditions. Mr. Kight has used the Italian Renaissance, Colonial and Modern French styles to the best advantage in his houses, the most of which are of the American basement type. As examples of some of his more important private residences, we submit No. 305 West 93d street; Nos. 90, 91 Riverside Drive; Nos. 315, 316, 317 Riverside Drive; Nos. 304, 306 West 76th street; No. 320 West 102d street; No. 671 West End avenue; No. 333 West 76th street. As will be seen from the examples given, Mr. Kight has succeeded in solving each problem in a masterly manner.

D. D. Lawson.

Among those who have contributed in no small way to the erection of those handsome apartment houses and flats in the central portion of the city is the well-known carpenter builder, Mr. D. D. Lawson, whose office is now located at No. 580 West 146th street. Mr. Lawson operated to a great extent on the West Side, and was uniformly successful in selling the many buildings which he erected. He has been enabled to successfully sell on account of the thorough workmanship displayed in all departments of the structures; it may be added that Mr. Lawson made perfection his goal and to that end he gave much of his time. In West 26th, 25th and 22d streets, Mr. Lawson erected nine houses, and on the West side also, as far up as 103d street, there are scores of residential buildings erected by him.

Harvey Murdock.

Mr. Harvey Murdock is a representative New York contractor, whose operations in the building line extend over Manhattan Island and to a great extent in the residential districts of Brooklyn. Mr. Murdock is a legitimate builder, building on contract only, and the class of structures erected by him are uniformly of a high standard, both as regards the workmanship displayed and the materials used. He has made a specialty to a great degree of private houses which he builds for his customers and clients. Of these he has erected over one hundred and eighty, situated along New York's best residential localities, and in the most desirable sites in Brooklyn.

In the latter place, Mr. Murdock has built many of the palatial residences. His work testifies to the fact that he is a thorough builder, and the constant supervision which he exercises over all his buildings is plainly apparent, when after the lapse of a few years there are none of those annoying discoveries of patched work or concealed imperfections—the bugbear of speculative building. Among the most important of the buildings constructed by Mr. Murdock in New York, are the residences of Thomas A. McIntyre, E. C. Homans and the late Col. W. H. Harris, on West 75th street, and designed by R. H. Robertson, architect. Also houses for Messrs. I. D. Fletcher, 5th avenue and 79th street; Geo. H. Macy, Riverside Drive and 74th street; Henry H. Vail, Riverside Drive and 75th street, and L. F. Dommerich, West 75th street, designed by C. P. H. Gilbert, architect, and residences of Jas. O. Hoyt and F. J. Stimson, on West 75th street, and Paul D. Cravath, on 39th street, near Park avenue, designed by Messrs. Babb, Cook & Willard.

New York Realty Savings Company.

The New York Realty Savings Company is an incorporated organization, founded for the purpose of operating in high class New York realty. Their operations since the inception of the company in 1896 have consisted in negotiating loans for improvement purposes and in constructing buildings as a basis of profitable investment. In both respects their operations have been extensive; they have made many profitable investments on bond and mortgage, and their building projections have been attended with unusual success. The officers of the company are men thoroughly familiar with New York real estate. As judges of the suitability for development of a certain piece of realty, they have no superiors; their operations stand as actual proofs of their capabilities in that particular branch of expert realty.

One of the greatest successes the New York Realty Savings Company has yet met with is the erection of the Royalton Hotel. It is a bachelor apartment house and is unquestionably the only affair of its class in the world. In size and equipment the Royalton far outstrips anything that has yet been contemplated in bachelor apartments. It is unique in this respect, in that it represents the acme of perfection in a building, as there is no modern convenience but what has been drawn upon to make the Royalton a most perfect hotel. The operation involved an expenditure of an immense amount of capital, but its success was established before the work was half completed. Applications from literary, legal and other professional men, desirous of occupying apartments which afforded so much convenience, filled more than two-thirds of the space before the structure had been completed by the contractor. As a speculative projection, the Royalton was a financial success from the outset.

The architects of the building are Messrs. Rossiter & Wright. It is constructed of stone, brick and architectural terra cotta, with a skeleton steel frame work. The building is the most modern fire-proof structure in the city, every resource having been drawn upon to attain that end. It is a twelve-story building, extending from Nos. 47 and 49 West 43d street to Nos. 44 and 46 West 44th street. The site chosen was a most fortunate one, a result of the business foresight of the company. It is conveniently located near the Astor-Tilden-Lenox Library, Bar Association of New York and the Grand Central Depot. It is the social as well as the club centre of the city.

The management were given carte blanche in matters of equipment. The result has been that the Royalton is the most perfect example of an up-to-date building in America or Europe. Every want of the tenants has been considered. Telephones have been placed in every room, giving a house and general connection. The electrical devices are the most recent, the energy being obtained from an electric plant in the building. A novel feature which has proved most successful is that of a circulating system of refrigeration, by which the temperature of the compartments of the refrigerators is regulated from twenty-five to thirty-six degrees, Fahrenheit. The plumbing is in keeping with the other improvements; it is exposed and completed according to best sanitary principles.

The officers of the company are Frederick Billings, president; F. A. Isham, vice-president; E. G. Bailey, treasurer; G. S. Bixby, secretary; B. S. Harmon, counsel; J. F. Merriam, general manager. Mr. Billings is a son of the late Frederick Billings, formerly president of the Northern Pacific Railroad, a man well known in the financial matters of the nation. No small measure of the success of the New York Realty Savings Company is due to the financial standing, conservatism and business sagacity of its president, Mr. Billings. To Mr. Merriam's long and practical experience in expert realty matters, combined with his legal training, the success of the company has also depended. The offices of the company are located at No. 100 Broadway.

John Pettit Realty Company.

The John Pettit Realty Company, of No. 30 East Twenty-third street, was organized by John Pettit, one of New York's most prominent real estate and building men. Its authorized capital is \$2,000,000, and its charter from the State of New Jersey is perpetual. The company was organized for the purchase, improvement and operation of none but high class industrial real estate in the Borough of Manhattan. The officers of the company are John Pettit, President and Treasurer; J. W. Spencer, First Vice President; Herman De Selding, Manager; Alex C. Quarrier, Secretary.

The founder of the company, Mr. Pettit, is a New York realty dealer of wide and thorough experience. He has been identified for the past twenty-five years with the building and improvement of the business district of this city. During that time he has erected over one hundred and fifty of the best class of commercial buildings; as a real estate man he has sold, among his more prominent transactions, such buildings as the Electrical Exchange, Washington street and Liberty street; Hanover Square Building; Nassau Chambers to Levi P. Morton; Downing Building, Fulton street, to Western investors. He organized the present company because of the fact that first class property in New York has become so valuable that it requires the massing of capital and the efficiency of department organization. The financial status of the company may be judged when it is learned that at present it owns two of the best rent producing properties of their class or value in the city; they are the Bennett Building on Nassau and Fulton streets, and the Beekman Building on Pearl and Beekman streets. The Bennett Building was sold to the John Pettit Realty Company for \$1,600,000, and \$256,000 was paid for the Beekman Building. These two properties have been made the basis of the John Pettit Realty Company's stocks. The subscriptions have been very large and since the organization and launching of the company not a single adverse criticism has been raised. The name of Pettit is in itself a sufficient guarantee of bona fide transactions so long has it been connected with honorable and upright dealing.

As has been stated the intention of the company is the purchase and improvement of high grade New York real estate on a co-operative plan, thus affording stockholders the same privileges, no matter what their wealth may be, as those which the capitalist receives by reason of his wealth.

Petty, Soulard & Walker Realty Company.

The growth of the section of the city lying across the Harlem River during the last few years has been remarkable. With the appointment of the Commission of Street Improvements of the Twenty-third and Twenty-fourth Wards, a new life began for this locality, for the laying out of streets and the building of sewers gave a wonderful stimulus to building.

Perhaps the largest operator in this locality has been the Petty, Soulard & Walker Realty Co. This company was founded in 1895 as the firm of Petty, Soulard & Walker, with an office at 73 Cedar street. In May, 1896, they removed to 156 and 158 Broadway and 69 Liberty street, and in July of the same year they organized the Petty, Soulard & Walker Realty Co., with a capital of \$50,000.

The bulk of their large real estate business has been confined to the Twenty-third Ward, in close proximity to the elevated railroad stations. During the past few years they have bought hundreds of

lots in this neighborhood and sold them to builders. Through their instrumentality a great number of four and five-story flat houses have been erected on these lots. The company's treatment of builders has been such as to enable them to carry through their building operations and make the company popular among that class of buyers.

William H. Picken.

The promptness which characterized the sale of the private houses erected by William H. Picken, of No. 61 West 113th street, leads one to believe that the properties for sale were of superior merit. Time has proved the truth of the supposition, and from various sources we learn that Mr. Picken has made the attainment of superior merit in the construction of his houses a goal which he was successful in reaching. In 1892 he built six three-story and basement houses on 113th street, near Lenox avenue, which sold at \$16,000 each. In 112th street, between Seventh and Eighth avenues, he built fourteen three-story and basement houses which sold at \$18,000 each. He has completed eight three-story and basement houses in 98th street, near Riverside Drive, three of which have been sold for \$25,000. Mr. Picken was a member and founder of the well-known real estate firm of Picken & Lilly.

Francis J. Schnugg.

The comparatively recent development and prosperous growth of the upper sections of the city has, as every New Yorker knows, been little short of marvellous. For two or three decades past, streets lined with houses sprang up under the magic touch of our speculative builders, and when sold or transferred the builders sought other fields, and next year the occurrence was repeated. The Upper East Side, and then the West Side were changed from the primitive appearance of a settlement in a partially deserted lumber village to districts with beautiful streets lined with costly private residences, spacious apartment houses and well designed flats and tenements. There can be no question but that this marvellous change for the better was in a great measure—many have said wholly so—due to the enterprising builder or investor who, taking advantage of the rapid growth in the population, built their structures, hoping to find a fortunate market. There have been many large private investors who have played a prominent part in the development of the middle and upper sections of Manhattan Island. The subject of our sketch, Mr. Francis J. Schnugg, is unquestionably one of the best known projectors in New York by reason of his prominent connection with the improvement and consequent building in both the East and West

Sides of the city. He has extended his operations from above 14th street to the Harlem River. His building operations have included the erection of numerous private dwellings, handsome apartment houses, theatres, store and loft buildings, and mercantile buildings and factories.

Mr. Schnugg is yet a young man. He studied the real estate movements while a bank clerk, and became familiar with the conditions which usually determine the values of realty in different sections of the city. He left the banking business and entered the building arena. Possessed of a sound judgment and giving the whole of his untiring energy to his work, his operations at once met with success. His failures and drawbacks afterwards redounded to his credit for he soon learned to profit by them and those of others. Mr. Schnugg is now looked upon as one of the largest and most successful building operators.

Special attention is called to the Avadon, a handsome apartment house on the southwest corner of 111th street and Seventh avenue. The Pleasure Palace, a theatre on the south side of 58th street, near Third avenue, was also built and leased by Mr. Schnugg. Other important buildings which Mr. Schnugg has built, and in a large majority of cases sold, are the apartment house at 117th street and Lenox avenue; northeast corner 115th street and St. Nicholas avenue, and eighteen private houses on 95th street, between Lexington and Park avenues.

S. W. B. Smith.

In the present record of the development of upper New York, especially on the West Side, the name of Mr. S. W. B. Smith, of No. 28 West 120th street, evidently takes a prominent place. Mr. Smith, during his career as a merchant builder has erected flats, apartment houses, and private residences that beautify many of the prominent business streets and residential districts above Central Park. He has endeavored to place on the market structures which on completion would reflect favor on him as a builder by reason of the workmanship displayed. In this Mr. Smith, it is generally agreed, has succeeded, and the high standard maintained in all his structures has brought about many ready sales.

P. M. Stewart and H. Ives Smith.

The firm of P. M. Stewart and H. Ives Smith, of No. 459 Boulevard, has been in existence ten years. It is a contracting and building firm, whose operations have been mainly confined to the erection of private houses. Both members are men of practical experience, and the class of houses they have erected have sold for sums ranging from \$25,000 to \$50,000. They have built over 100 houses in the locality between West End avenue and Riverside Drive, from 75th to 107th street. The structures are to a great extent American basement houses.

Leopold R. Treu.

Mr. Leopold R. Treu, of No. 114 West 34th street, is one of our general contractors who builds for himself and, if the market is favorable, disposes of the structure which he has erected. He has been a structural iron contractor and is perfectly familiar with that branch of the building trade. Seven years ago, however, he entered the general contracting field and has since superintended the erection of his buildings in every department. He has built No. 48 University place and No. 50 Bleecker street, both seven-story store and loft buildings. Other buildings which he has constructed are Nos. 141 and 145 Wooster street, an eight-story building, and No. 60 University place, an eight-story store and loft building; also No. 7 Great Jones street, an eight-story fire-proof building.

Clarence True.

Mr. Clarence True is probably the best known New York architect designing almost entirely residential structures. He began the study of architecture seventeen years ago with R. M. Upjohn, of No. 111 Broadway. Nine years ago, he opened an office for himself, and his work as exemplified by his houses is a credit both to himself and the city. It was Mr. True who originated the American basement house which style he has used in most cases. He has designed about four hundred houses for the West Side. Mr. True, in the beginning of his career, practised first in the Gothic style of architecture, but for the past few years he has taken to the Elizabethan Renaissance, which is more free and adapts itself readily to the conditions one meets with in building houses in New York. Mr. True is one of the few architects who builds himself, ensuring the carrying of his plans to a correct issue. His address is No. 459 Boulevard.

W. Ormiston Tait.

Among the architects who have helped to make the Apartment Houses of New York the best in the world, the name of W. Ormiston Tait, of No. 1236 Madison avenue, at once comes into prominence. Mr. Tait is an Englishman by birth and is a graduate of the firm of Power & Wheeler, well-known London architects. He came to New York in 1883, and afterwards went into the office of Hubert, Pirsson & Co., where he became proficient in New York architecture. In 1890 he opened a Brooklyn office, but soon afterwards came to New York, where he has been uniformly successful. One of his best works is the Arbutus, an apartment house, corner of 91st street and West End avenue.

P. Wagner.

Among the merchant builders contributing to the rapid development of the upper residential sections of New York, Mr. P. Wag-

ner, of No. 266 Columbus avenue, takes rank among the foremost. Mr. Wagner has built a good and substantial class of structures, situated mainly in the upper West Side of the city. He recognized the fact that while many of the dwellings placed on the market were of an inferior type and were a menace to the speculative element generally, yet a high-class apartment house or private dwelling was always in demand. To the erection of the latter class of buildings Mr. Wagner devoted his energies, and the ready sales of his structures testify to the manner in which they were completed.

Robert Wallace.

Mr. Robert Wallace is one of the prominent builders who have contributed to the improvement of the upper West Side. Mr. Wallace built almost entirely private houses of a substantial class situated in desirable residential localities. His most important work has been the handsome block of flats between 87th and 88th streets on Amsterdam avenue. In all, he has built in private houses, somewhat over fifty. For these he has had ready sales, the purchasers testifying in a manner to the class of work completed. Some of his important rows of houses constructed are eleven houses in 88th street, between Columbus and Amsterdam avenues, eight houses in 80th street, between the same avenues; five houses in 75th street, between same avenues; six houses in 78th street, between West End avenue and Riverside Drive; eight houses in 68th street, between Eighth avenue and Columbus avenue. Mr. Wallace's office is at No. 320 West 70th street.

Weil & Meyer.

The firm of Weil & Meyer, with offices at No. 35 Nassau street, are among the largest operators in the building line in the city. For the past twenty years they have built, as operating builders, not only in the apartment house districts of the East Side but have recently entered the mercantile section of the city. The firm was organized in 1872, but it was not until 1876 that the buying of suitable sites for tenements and flats and the erection of the buildings thereon was engaged in. In the initial period of their copartnership they became known to New York's building circles by their judicial loans to builders, and afterwards, when they began to build on their own account, the class of structures they completed were generally spoken of by builders as belonging to the best class. The first field in which they built was on 1st and 2d avenues, above 59th street, and on the adjoining side streets. It may be mentioned that Weil & Meyer never entered the West Side to any great extent, but found their greatest success in the downtown districts of the East Side. Here in the locality of Monroe, Cherry and Lewis streets, they entered as pioneers in that dilapidated district

some years ago, destroyed the rookeries that existed there and erected a substantial class of tenements and flats. In Monroe and Cherry streets the firm built twenty houses in each street, and in Lewis street eighteen houses were erected. In the Fourth, Tenth, Eleventh, Seventh and Twelfth Wards, Weil & Meyer have erected in the neighborhood of fifty tenements a year. It will be readily seen, therefore, that they have erected several hundred of that class of buildings in different parts of the city. These buildings, with the cost of ground included, have involved an expenditure of from \$25,000 to \$35,000. As example of their ventures on the West Side we submit the block of houses on Tenth avenue, between 133d street and 134th street, and another block on Eighth avenue, between 15th and 16th streets.

Weil & Meyer of late have operated to a great extent in the commercial district of the city, between Canal and 14th streets. The firm has completed such buildings as Nos. 585 and 587 Broadway, a twelve-story building, 52 by 200, which sold for \$925,000; another seven-story structure on the northeast corner of Spring and Wooster streets, worth \$250,000. They also erected the seven-story store and loft building in No. 20 Bond street; No. 47 Great Jones street, No. 30 Great Jones street, No. 50 Bond street, all of which brought on sale over \$100,000.

It will be seen that Weil & Meyer have contributed in no slight manner to the development of New York. Both members of the firm are conscientious and shrewd business men, studying carefully the details of all their projects, which usually have met with marked success.

TITLES TO REAL ESTATE IN THE CITY OF NEW YORK.

NEW YORK was first settled by the Dutch, and not by the English, and under the names of *Nieuw Nederland*, *Nieuw Amsterdam*, *Fort Oranje*, was governed by the Roman Civil Law, which was the law of Holland and The Netherlands. In 1623 the States General of Holland granted all the Island of Manhattan to the Dutch West India Company, and in 1626 that company bought up the title of the Indians, and paid the tribe of the *Manhattoes* sixty guilders, about twenty-four dollars, for the whole island. This was not such an unfair price as it seems. The island was a wilderness, in the midst of a wilderness, covered with forest, inhabited by bears, panthers and other wild animals (including savages). It has turned out to be a good real estate speculation. But if you take \$24 and lend it at interest at six per cent. per annum, in the year 1626, remembering that money doubles at compound interest at six per cent. every eleven years, we find that that \$24 would now, in 1898, after having doubled about twenty-five times, amount to over \$800,000,000, which would be a pretty high valuation of all the lots on this island if they were all vacant, no buildings on them; probably more than they would be appraised at, even after the State Board of Assessors had "equalized" it by taking off from the rest of the State, and adding on to New York City all that they dared.

The Dutch West India Company had the powers of a government, its charter gave it authority to enact laws, establish courts, and deal in land as well; and most of the original titles to land in this city came from that company, generally in the form of a "patent" from the governor of the colony; elsewhere in the State there were a number of grants or patents of large tracts, since called manors, to patroons, who undertook to settle them. The first Dutch speculator in land in New Amsterdam was Isaac de Forest; he was a Dutchman of Huguenot descent; his ancestors fled from

France, at the Revocation of the Edict of Nantes, to Holland which was at that time, as it has ever been, the land of the free and the home of the brave: in the middle of the sixteenth century Holland began to resist religious oppression, and interference with liberty of conscience, and to that cradle of liberty fled all the oppressed, Huguenots from France, Jews from Portugal, Puritans from England. After The Netherlands had whipped Spain, William the Silent, in his instructions to the Dutch officials enjoined upon them to "see that the word of God is preached, without, however, suffering any hindrance to the Roman Church in the exercise of its religion," and forbade the persecution of the Roman Catholics whose ecclesiastical tyranny they had been fighting.

The Mayflower Pilgrims got to the City of Leyden, Holland, in 1609, and stayed there eleven years, learning religious toleration, the value of free schools, the Dutch method of recording titles, and many other points of value. I say they learned "religious toleration," because the "Pilgrims" of Plymouth Rock were not the bigoted "Puritans" of Massachusetts Bay and Boston: the former burned no Quakers, hung no witches, persecuted none who differed from them in theology, but they sheltered Roger Williams as the Dutch of Nieuw Amsterdam received Mistress Annie Hutchinson.

About the time that the Pilgrims left Leyden, that "Goodlie and pleasaunt citie which had been their resting place near twelve years" as William Bradford called it, Jesse de Forest, in 1621, applied to the English ambassador at the Hague, Sir Dudley Carleton, in the name of fifty-six families at Leyden who wished to go to Virginia, and asked permission and assistance of the King of England. His petition in full, with the names of the subscribers, is given in Dr. Baird's History of the Huguenots in America: permission was granted but assistance refused; so in 1622 de Forest sent a similar petition to the States General of the United Provinces of The Netherlands, by whom permission was granted, and his colony of thirty families sailed from Holland in the ship "Nieuw Nederland," in March, 1623; they reached the mouth of the Hudson in May, and hoisted the Dutch flag on the Island of Manhattan; part of the col-

onists settled here, and the rest went on to where Albany now stands, and built Fort Orange. The names of all of these families are not known, but Jesse de Forest was one of them.

When the Holland Society of New York visited Holland in 1888, we were entertained, among other places, at Leyden, where there was arranged for us a remarkable historical collection of manuscripts, maps, printed books, pictures, and among them the manuscript "Register of State Affairs, Vol. A. folio 123, August, 1622," in which was written the authorization given to Jesse de Forest for enrolling Walloon colonists; this was dated August 27, 1622.

We were also shown the "Register of Common Affairs, Vol. L., folio 52," dated January 4, 1624, wherein was granted permission to Gerard de Forest to take the dyer's place of his brother Jesse, "gone lately to West Indies," as America was called at that time.

The court minutes of the city of Nieuw Amsterdam do not begin until February 6, 1653, thirty years after Jesse got here, and by that time he must have been an old man; we have no record of his death, nor of any of his dealings; but according to the list of baptisms in the old Dutch Church, the first son of Isaac de Forest, who was named Jesse, was baptized here November 9, 1642; from this it is probable that Isaac was the son of Jesse, naming his first son after his own father in accordance with Dutch custom. (By the way, Isaac had eleven sons and three daughters before he got through. Another Dutch custom). Isaac de Forest had many transactions between 1653 and 1657, his name appearing in the records more than one hundred times. The first time he appears as assessed for 100 florins for the defense of the city, and the next time he obtained a judgment against Adrian Keyser for a balance of 230 florins due him for a house and lot. Another time, in 1655, he complained that next to his house and cellar (in the present Stone street, about 60 feet from Whitehall) there was a waste and unoccupied lot, from which his cellar was filled with water, greatly to his damage, and requested that Daniel Litschoe, the owner of the said lot, be ordered to build on it according to the law under which the lots had been sold, or else to have the lot appraised, in which case, he, de Forest, would build on it; and the court ordered Mr. Litschoe to

build on his lot, and to keep the petitioner, de Forest, harmless. He was one of the petitioners to have Stone street paved, in 1655, and it was the first street paved in this city. In 1656 he bought a lot on the north side of Pearl street, about 80 feet north of Whitehall, then known as the "Old Church Lot," where a wooden church had been built as early as 1633, and he built a house on it which was declared to be "an ornament to the city," in consequence of which he obtained in 1664 a grant of the lane adjoining on which to build a woodshed, etc.

The first record of the sale of city lots, according to Mrs. Lamb's history of the City of New York was in 1642, from Abraham van Steenwyck to my ancestor Antony Jansen van Fez, a lot on Bridge street (which then had no name), being thirty feet front by one hundred and ten deep, for the consideration of fourteen florins, \$9.60! Antony van Fez was also called Antony van Salee, because he had lived in both places in Algiers, having been one of those Dutch sailors called "Beggars of the Sea," who fought Spain. He finally settled in Nieuw Amsterdam, and his daughter Eva married, in 1652, my direct ancestor, Ferdinandus van Sicklen. In 1639 Governor Kieft granted to him, van Salee, a tract adjoining Gravesend, ever since known as the "Turk's Plantation"; it is now Bensonhurst. Mr. Robert Bayles, now, in 1898, President of the Market and Fulton National Bank of New York, has a brazier which has come to him through the Gulick family and which was brought from Algiers by our ancestor, the Dutch sailor, Antony Jansen van Salee, "the Turk."

The first ordinance of New Amsterdam relating to real estate, that I have been able to find, was passed February 7, 1650, although a city surveyor to lay out lots properly, Andries Hudde, had been appointed in 1642, at a salary of 200 florins, and some small fees. This ordinance of 1650 declared all contracts and conveyances of real estate void and of no value which should be passed and signed after that date, Feb. 7, 1650, without the approval and confirmation of the Director General (Peter Stuyvesant) and his Council.

But in 1664 an English fleet appeared in New York harbor, the unprepared Dutchmen had to give up their city and province, and

the Dutch Roman Civil Law gave place to the English Common Law. One chief distinction between these two schools of law, in relation to real estate, is the method of calculating equal degrees of consanguinity; for instance, under the Roman law brothers and sisters are relatives of the second degree, while under the common law they are of the first degree. This is because the civil law begins with the intestate and ascends from him to a common ancestor, and then descends from that ancestor to the next heir, counting a degree for each person, each step, up, and for each person or step down; so that an intestate's father is in the first degree, and then from the common ancestor, the father, to his brother, another step, makes the brother in the second degree; thus his grandfather is also in the second degree; while his nephew is in the third degree, just the same as his grandfather's brother would be; while his own cousins would be a step further, that is in the fourth.

But the Common Law rule is to start with the common ancestor, and not with the intestate himself; so if you start with his father, then it is only one degree from the father to the intestate's brother, who is thus in the first degree instead of the second, as in the Civil law. And his uncle is only in the second degree because their common ancestor was the grandfather of the intestate, from whom the latter is two degrees distant; and brothers, being in the first degree, inherit directly from each other, and don't have to go back, around, through a common ancestor.

The old Dutch grants were mostly confirmed by new grants or charters from the English Government, and again were reconfirmed by the proclamation of Governor Andros in 1675, when New York was again given up to England, this time by a treaty of peace which stipulated that both England and Holland should give back all they had captured in the war immediately preceding; there being then no Atlantic cable, neither nation knew, at the time the treaty was signed, that a Dutch fleet had appeared in New York harbor in 1674 and recaptured this city.

One of the old Dutch titles still existing is that of the Hopper-Stryker-Mott property, around Stryker's Bay, in the vicinity of 55th street and the North River.

But when the English Common Law came in, not only were the individual titles to property undisturbed, but the Dutch method of registering or recording titles in vogue here was let alone; and most wisely. This was undoubtedly a Dutch system.

Andrew Yarranton, a shrewd Englishman, published over two hundred years ago a book with the following extensive title: "England's Improvement by Sea and Land: To Outdo the Dutch Without Fighting; To Pay Debts Without Moneys; To Set at Work the Poor of England with the Growth of Our Own Lands; To Prevent Unnecessary Law Suits with the Benefits of a Voluntary Register; Directions Where Vast Quantities of Timber are to be had for the Building of Ships; With the Advantage of Making the Great Rivers of England Navigable; Rules to Prevent Fires in London and other Great Cities; With Directions how the several Companies of Handicraftsmen in London may have Cheap Meat and Drink. By Andrew Yarranton, Gent., London; printed for the Author, by Roger L'Estrange, 1677."

Andrew had been sent abroad by eleven private gentlemen, who paid from their own pockets his expenses, and those of an interpreter, that he might study and report upon all trades, manufactures and improvements which he should deem it advantageous to introduce into England. This book was written on his return. The following extract gives his view on the subject of "Land Title Reform:"

"Now, I will demonstrate to all men unbiased the truth of what I assert, and show them the condition the gentlemen and people of England are in this day, and also the condition the Dutch are in at this day, in all their provinces. Let a gentleman now in England, that hath a thousand pounds a year in land, that owes four thousand pounds, come to a money scrivener and desire four thousand pounds to be lent on all his land, and produce his writings, and the estate hath been in the family two hundred years, I know at this day the answer will be, that by the law of England, as it is now practiced, no man can know a title by writings, there being so many ways to encumber land privately. And therefore, the answer commonly is, 'Bring us security for the covenants, and we will lend you

the moneys.' The gentleman gets such friends as he can procure to be bound for his covenants, whom, if they accept, then the procurator and the continuator have their game to play; but if he bring not such security as they like, he goeth without his four thousand pounds, which is a sad and lamentable case, he having lands worth a thousand pound a year; and now he is put to his shifts, his creditors come upon him, and the charge of law suits comes on, all his affairs are distracted, his sons and daughters want money to set them up in the world. At last it is possible he gets two thousand pounds apiece of two several persons, of one at York, and of the other at London, and mortgages all his lands to each man. This continues private for some years; the while the gentleman strives what he can to be honest, and prepare moneys to pay off one of the mortgages.

"But it commonly falls out otherwise, either through 'bad times' or decay to tenants, great taxes, or the eldest son matching contrary to his father's will, or oftentimes it is worse—he is so debauched no one will match with him. Now the gentleman's miseries come on, and what must he then do? For the persons that have the land mortgaged will not stay, because by this time it is discovered the land is twice mortgaged. I tell you, the lawyers' harvest is now come on, and the estate torn to pieces, and the gentleman, his wife and family, and, it may be, creditors, too, undone. For, seeing all is in danger to be gone, the friends of the wife trump up a former title to the two mortgages, and fence to get all the estate that sheriff, bayliffs, solicitors and lawyers leave, to be to the uses intended or pretended in the private settlement. But you will ask me what the poor gentleman shall do to secure his person. I will tell you what some have done, and many more, I know, must do—even turn over either to the Fleet or Bench. O pity and sin that it should be so in brave England! First, pity that a poor gentleman cannot have moneys at such interest upon his lands as the law directs, to pay his just debts, and for the good and comfort of his family. Secondly, it is a sin that a gentleman of a thousand pounds a year should be the occasion of ruining so many families as he does, by putting them to such vexatious suits for their moneys lent, and it may be, at last, lose all."

"In this posture, as you see, are many poor men in England, which cannot borrow four thousand pounds of a thousand pounds a year land. I pray, let us see what posture a Dutchman stands in, that hath one hundred pounds a year, and wants four thousand pounds."

"Now, I am a Dutchman, and I have one hundred pounds a year in the province of West Friesland, near Groningen, and I come to the bank at Amsterdam, and there tender a particular of my lands, and how tenanted, being one hundred pounds a year in West Friesland, and desire them to lend me four thousand pounds, and I will mortgage my land for it. The answer will be, I will send by the post to the Register of Groningen your particular, and at the return of the post you shall have your answer. The Register of Groningen sends answer, it is my land and tenanted according to the particular. There is no more words, but tell out your moneys."

"Observe, all you that read this, and tell to your children this strange thing, that paper in Holland is equal with moneys in England. I refuse the moneys, I tell him I do not want moneys, I want credit, and having one son at Venice, one at Noremburg, one at Hamburg and one at Dantzick, where banks are, I desire four tickets of credit, each of them for a thousand pounds, with letters of advice directed to each of my sons, which is immediately done, and I mortgage my lands at three in the hundred. Reader, I pray observe, that every acre of land in the seven provinces trades all the world over, and it is as good as ready money; but in England a poor gentleman cannot take up four thousand pounds upon his land at six in the hundred interest, although he would mortgage a thousand pounds a year for it. No, and many gentlemen at this day, of five hundred pounds a year in land, cannot have credit to live at a twelve-penny ordinary. If this be so, it is very clear and evident that a man with one hundred pounds a year in Holland, so convenienced as their titles are, and at the paying but three in the hundred interest for the moneys lent, may sooner raise three families, than a gentleman in England can raise one or preserve the family in being, for the reasons already given."

Our New York system was evidently the child of the Holland

system of our Dutch ancestors; but it grew to such dimensions here that it had to be reformed again, and after some study, and after the usual opposition from the forces of self-interest, inertia and conservatism in human nature, the Block system of recording deeds, mortgages and other instruments was put in operation in this city, to the considerable relief of the pockets of real estate purchasers, and of borrowers on bond and mortgage. While the introduction of this system was most powerfully advocated by Mr. Dwight H. Olmstead, Judge E. B. Hinsdale, and other gentlemen of the Bar, its practical use was developed and introduced by Mr. George W. Van Siclen, originally for lessening the cost of titles to borrowers from the College Point Savings Bank, which Mr. Van Siclen founded in 1873; in order to have the work done once for all, and to avoid repetition, Mr. Van Siclen obtained and systematically analyzed and arranged a ledger account of the old farm titles, partitions, transfers and mortgages of the property in the village of College Point, in which he was most kindly assisted by the property owners there, Messrs Poppenhusens, Funkes, Schlesinger, Stratton and others, so that the collection of abstracts of title of the College Point Savings Bank have annually received the praise of the State Banking Department. The development of this idea in Mr. Van Siclen's mind led to his drafting and obtaining in 1882 the charter of the present Title Guarantee and Trust Co., under the name of the German-American Loan and Trust Co., with a capital of \$500,000, with which that company began business in 1883; a number of Philadelphia conveyancers bought up large interests in the new company, and when Mr. Van Siclen made a motion to invite the New York Bar to take part in it, he was outvoted, and from growing divergence of views, he withdrew. There have since been founded by others the Lawyers' Title Insurance Co., now one of the largest institutions in the country, and the German-American Title Insurance Co. The original corporation has grown to have a capital of \$2,500,000, with a surplus of \$2,000,000, and in the year 1897, it loaned on bond and mortgage in New York and Brooklyn, and sold to investors over \$25,000,000 of mortgages, with guaranteed titles. Its stock sells on 'change at

288; and it is a child of the intellect of which to be proud. Still, real estate is not used as active capital in this city to the extent that it might be; it is perfectly feasible to deliver a certificate of guaranteed title to either a house and lot, or to a bond or mortgage, in a form similar to a certificate of capital stock of a corporation; and when men of business and courage, not speculators, come to take it up, that will be the next step in the history of real estate titles. There are many famous lawyers, firms and individuals, whose opinions on questions of title are deservedly sought and paid for, among them Martin & Smith, Charles Coudert, William G. Choate, John Webber, Theo. F. Jackson, Myer S. Isaacs, Benjamin F. Lee, J. Evarts Tracy, David B. Ogden, Herbert B. Turner, John T. Lockman, John Duer, Henry E. Howland, J. Lawrence Marcus, E. W. Coggeshall, Fred. de Peyster Foster, E. Ellery Anderson, William Allen Butler, James M. Varnum, Joseph H. Gray, B. Aymar Sands, William P. Dixon, Truman H. Baldwin, Carter & Ledyard, Strong & Cadwallader; Peabody, Baker & Peabody; George J. Kilgen; William C. Orr; Hoadley, Lauterbach & Johnson; Vanderpoel, Cuming & Godwin, and a score or two more, who have examined the titles to real estate in this city, either for the purchasers, or for those who lent money upon bond and mortgage, to a total of thousands of millions of dollars, and who have never lost a dollar of their clients' money, so careful and accurate have been their investigations, and so correct their judgment.

There have also arisen of late years corporations which guarantee the payment of a bond and mortgage, principal and interest, called mortgage guarantee companies, where the title is insured by a title company, and payment by the mortgage company. These give almost absolute security, of course at a low rate of interest, to those who buy their mortgages and debentures; but they are only moderately successful, so far, because their managers have failed to grasp the condition which would insure them full success.

In addition, many people of small means have lately invested in building and loan associations; it remains to be seen if these will prove more successful in their wind-up than those which were popular in New York and Brooklyn, fifty years ago, and in Philadelphia

thirty years ago, which generally, at maturity of their final series, found the remaining shareholders obliged to take, instead of money, pieces of real estate, which they themselves could not use, and with which the market was overloaded.

The time will yet come when the real estate of the City of New York will be made active capital in business. But the object of this article is history, not prophecy.

GEORGE W. VAN SICLEN.

LEADING REAL ESTATE LAWYERS.

Bowers and Sands.

The legal firm of Bowers and Sands, of No. 31 Nassau street, was founded in 1813 by James W. Gerard. In 1838 Mr. Gerard associated with him Mr. James N. Platt, and the firm became known as Gerard and Platt. On November 1, 1849, James W. Gerard, Jr., and Thomas C. T. Buckley were admitted as partners, and the firm assumed the name of Platt, Gerard and Buckley. Mr. James W. Gerard, Jr., retired in 1867, and in 1877, Thomas C. T. Buckley died, the name then changed to Platt and Gerard. In 1878 John M. Bowers was admitted as partner, and the firm's name was changed to Platt, Gerard and Bowers. On September 20, 1881, James W. Gerard retired, and the name was again changed to Platt and Bowers. B. Aymar Sands became a partner on November 1, 1885, and on February 1, 1894, Frederick J. Middlebrook was admitted, the name changing to Platt, Bowers and Sands. Mr. James N. Platt retired on May 1, 1894, and the business of the firm has since been carried on under the name of Bowers and Sands.

Evarts, Choate & Beaman.

There is probably no legal firm so well-known in America for the past quarter of a century as that of Evarts, Choate & Beaman, whose offices are located in No. 52 Wall street. In general corporation law the firm unquestionably is one of the most powerful in the American bar. The cases in which this firm has been retained are markedly those of national importance, testifying to the high legal status of the firm. The history of the firm runs as follows: Charles E. Butler, who was born in 1818, when quite a young man became associated in business with the late Jonathan Prescott Hall in the practice of the law in the City of New York. In 1842 the firm of Butler & Evarts, composed of Charles E. Butler and William M. Evarts was formed, Mr. Hall being interested in the business as counsel, although not nominally a member of the firm. The firm of Butler & Evarts continued in practice until January 1, 1852, when Charles F. Southmayd was admitted as a partner, and the firm of Butler & Evarts became Butler, Evarts & Southmayd. December 31, 1858, Charles E. Butler retired from the firm, which then became Evarts & Southmayd; this firm continued for only five months, and June 1, 1859, Joseph H. Choate and Jeremiah Evarts Tracy became members of the firm, and the firm name became Evarts, Southmayd & Choate. After about three years of absence, Mr.

Butler re-entered the firm, the name of which remained unchanged. January 1, 1874, Charles H. Tweed, Prescott Hall Butler, a son of Charles E. Butler, and Allen W. Evarts, a son of William M. Evarts, became members of the firm, the name still remaining unchanged. January 1, 1879, Charles C. Beaman, a son-in-law of Mr. William M. Evarts, became a member of the firm, and December 31, 1882, Charles E. Butler again retired from the practice of the law, and Charles H. Tweed withdrew, and January 1, 1883, Treadwell Cleveland became a member of the firm. July 1, 1884, Charles F. Southmayd retired from the practice of the law, and the firm name was changed to Evarts, Choate & Beaman. Since July 1, 1884, the firm has continued and still continues with the membership unchanged. During the long period of upwards of fifty-five years since the firm of Butler & Evarts was established, the firm has had an extensive practice in all branches of litigation and affairs relating to real estate, and the important cases in which different members of the firm have been engaged relating to both public and private interests are too numerous to mention. Mr. Evarts, as is well known, was counsel in the celebrated Lemmon Slave Case, in important cases arising during the Civil War, the trial of the impeachment of Andrew Johnson, President of the United States; before the Electoral Commission; the so-called Alabama Claims Tribunal; the defence of Henry Ward Beecher, and Mr. Choate was counsel in the Del Valley case for breach of promise, in which the plaintiff claimed \$50,000, but recovered \$50; the Cesnola Libel case, involving the general honesty of the Art Collection of Antiquities, the Behring Sea case before the United States Supreme Court, the Income Tax cases, the Chinese case, California Irrigation cases and numerous others.

Hoadly, Lauterbach & Johnson.

Prominent in the ranks of well-known legal firms, with a reputation not merely local but national, stands the firm of Hoadly, Lauterbach & Johnson. The personnel of the firm consists of George Hoadly, Edward Lauterbach, Edgar M. Johnson, William N. Cohen, Louis Adler, Ferdinand R. Minrath, William H. Page, Jr., and John Vernon Bouvier, Jr. For many years this firm has maintained a clientele worthy of its status in the New York legal fraternity. In title work and the passing on mortgages and purchases the firm has been particularly active. Its experience in this department is especially valuable. This work has been under the management of Ferdinand R. Minrath. The offices of the firm are located in No. 22 William street.

Hobbs & Gifford.

In 1874 the two law firms of Beebe, Donohue & Cooke, and Wilcox & Hobbs, of this city, consolidated under the name of Beebe,

Wilcox and Hobbs, and continued under this name until 1883. In that year Mr. Edward H. Hobbs withdrew from the firm practicing alone until 1885, when he associated with himself Mr. James M. Gifford, the name changing to Hobbs & Gifford. Two more partners, Jesse Stearns and Charles B. Hobbs have since been admitted. The firm has always been active in examination of titles and in investment of private and estate funds on first mortgage covering New York City property. Special attention has been given to admiralty and corporation law. The address is No. 56 Pine street.

Seth R. Johnson.

Among New York's legal men, who have been connected with the bar, both in litigation, corporation law, the realty department and commercial law, Mr. Seth R. Johnson, of No. 71 Wall street, stands prominent in the list. Mr. Johnson entered the office of Mr. Silas B. Brownell when a boy, was admitted to the bar in 1864, and then entered his former tutor's office. A greater portion of Mr. Johnson's business is, however, realty law. His large clientele give him their investments with the power of properly securing them, in which connection he examines titles and passes upon mortgages. Mr. Johnson is intimately acquainted with the history of New York's legal fraternity for the past forty years, and is conversant with the many changes which have occurred during that time. He has been one of the attorneys for the "Record and Guide" for many years.

George J. Kilgen.

Among the local barristers prominent in banking, building and loan associations, and the laws thereof, is Mr. George J. Kilgen, of No. 100 Broadway. Mr. Kilgen was admitted to the bar in 1886, and is a pleader in the Supreme Court of New York State, the State of Washington, and United States Supreme Court. He was at first associated with Melville Kellogg, at No. 18 Wall street, but on the latter's death, Mr. Kilgen opened an office in No. 120 Broadway, where he entered largely into the corporation laws. He is unquestionably one of the highest authorities on State laws affecting building and loan associations and banking corporations. Mr. Kilgen makes loans for his clients and passes upon titles before investments are made.

Edward E. McCall.

Mr. Edward E. McCall, of No. 346 Broadway, has been connected with the legal department of New York realty for the past twelve years. Mr. McCall is well known as one of the highest authorities in general estate law, and the fact that he has been connected with several large and wealthy corporations testifies to his high status as a legal luminary in corporation law. He was admitted to the bar in 1886, and immediately formed a partnership with W. C. Arnold,

in which real estate law was practised exclusively. Shortly afterwards Mr. McCall became connected with George F. Demorest in the law department of the Mutual Life Insurance Company, but subsequently resigned and began a practise himself. Mr. McCall's services were again in demand, however, and he accepted from the Equitable Life Insurance Company the responsible position of attorney for that company, supervising its large realty interests. He remained five years in this capacity, but in 1892 he became the personal attorney of the New York Life Insurance and has entire charge of the real estate interests in New York and contiguous states. In this capacity Mr. McCall examines yearly the titles of millions of dollars in realty. He has been for eight years one of the examining counsel of the Lawyers' Title Insurance Co., and is one of the directors of the Lawyers' Engineering and Surveying Company. Mr. McCall is also the advisory attorney for the Park Building and Loan Association.

William C. Orr.

Mr. William C. Orr has been prominently connected with some of the largest transactions in New York realty, and is one of the best known men in metropolitan realty circles. He is not a broker in the general acceptance of the word, neither is he a real estate agent. Mr. Orr occupies the position of confidential adviser to clients wishing to invest money on bond or mortgage, or on the other hand to dispose of property. In America there is no such term by which one could designate such an office; in England such duties are performed by the family lawyer.

Although Mr. Orr has placed many large properties on the market, it has been through brokers that the sales have been made; his complete knowledge of realty values in all parts of the city and his wide acquaintance with brokers and other investors render him a successful medium for such transactions. His connection with New York real estate has consisted to a great extent, therefore, of placing loans on bond and mortgage settlement and management of large estates, and as an advisor of trust companies, private individuals and other investors.

For nearly eighteen years Mr. Orr has occupied the position of examiner of titles for the Emigrant Industrial Savings Bank; he is one of the examiners of the Lawyers' Title Insurance Company; he holds the responsible position of attorney of the Fifth Avenue Bank, in 44th street and Fifth avenue; he was Chairman of the Legislative Committee of the Real Estate Exchange, and is a member of the Committees on Rapid Transit and Arbitration in the Real Estate Exchange.

Peabody, Baker & Peabody.

The firm of Peabody, Baker & Peabody, of No. 2 Wall street, is one of New York's conservative and reputable legal firms. It was

established over thirty years ago by Charles A. Peabody, who associated with him Mr. Fisher A. Baker. Ten years after the establishment of the firm Mr. Peabody's son, Charles A. Peabody, Jr., was admitted into partnership, and the name assumed its present form, Peabody, Baker & Peabody. The firm does a general law business, in which the real estate law department is managed by Mr. Charles A. Peabody, Jr. He is a graduate of Columbia law school of the class of '71.

Strong & Cadwalader.

The legal firm of Strong & Cadwalader, now most prominently known of the many legal luminaries of the metropolitan bar, was established prior to 1818. It was then known under the name of Bidwell & Strong, the component members being Marshall S. Bidwell and George W. Strong, uncle of the lately deceased member of the firm. George T. Strong was afterwards admitted and then in 1878 the firm became Strong & Cadwalader, the members being Charles E. Strong and John L. Cadwalader. In 1886 George W. Wickersham and George F. Butterworth became members of the copartnership. From its long connection, not only in a business manner, but socially, the firm holds many responsible positions. It is the legal adviser of many well known New York families at home and abroad, and also for the members of many of the oldest and wealthiest New England families. A very large number of the immense loans made by our wealthy estates have been certified to by this firm, particularly in passing upon titles. In the real estate department of their law business they are recognized as one of the highest authorities in passing upon titles, the formation of trusts and the conformation of wills in which deep knowledge of law is required so that the desire of a testator is carried out. Mr. Geo. F. Butterworth is a member of the Committee of Counsel of the Lawyers' Title Guarantee Co., of which the late Charles E. Strong was a director from its organization. The firm is the counsel for the Bank for Savings in the City of New York and also for the Seamen's Bank of the City of New York, the second and third largest savings banks respectively in the state.

John Sabine Smith.

The well-known Republican leader and New York lawyer, John Sabine Smith, was admitted to the bar in 1868. While prominent in the inner circles of political movements, Mr. Smith has also attained an equal prominence as a barrister. He has frequently been retained as the counsel of extensive estates and large corporations and for various companies which have invested capital in realty or otherwise. For many years he has examined and passed upon titles for loans and mortgages, and has acted as counsel for receivers. He is a member of the University, Lawyers', Republican and Quill Clubs, in this city.

Vanderpoel, Cuming & Godwin.

One of the substantial and honored legal firms in New York is that of Vanderpoel, Cuming & Godwin, of No. 2 Wall street. Established in 1853, it has always maintained a high reputation among the legal fraternity both in its litigation and corporation business. The firm was known as Brown, Hall & Vanderpoel in 1853, but twenty years later it became Vanderpoel, Green & Cuming, which was afterward changed to Vanderpoel, Green, Cuming & Godwin in 1886. In 1888 the firm assumed its present name, that of Vanderpoel, Cuming & Godwin, its personnel being James R. Cuming, Aug. H. Vanderpoel, Almon Godwin, Henry Thompson, Richard W. Freedman. The firm has done much general corporation work both in the matter of reorganization and organization in all its branches.

TITLE, TRUST, REAL ESTATE, AND SIMILAR CORPORATIONS.

Building and Sanitary Inspection Co.

The Building and Sanitary Inspection Company, of No. 55 Liberty street, New York, was organized in May, 1897. The company undertakes the structural and sanitary inspection of buildings in an impartial and thorough manner. It also examines buildings for makers of loans, thus protecting corporations and individuals making loans against fraudulent builders. It supervises and certifies to the nature of the plumbing and sanitary work and general construction of a building. Its list of patrons includes a large number of owners of public and private buildings.

German-American Real Estate Title Guarantee Co.

The German-American Real Estate Title Guarantee Company is of comparatively recent origin. Its object is the same as other title insurances, to supersede the old system which necessitates a re-examination of title with the consequent delays and expense at every transfer of real property. The company contracts to pay all losses caused by defects of title to the amount insured and to defend all actions at its own expense which may be brought against the titles guaranteed by it. The officers are Edward V. Loew, President; George C. Clausen, Vice-President; Chas. J. Obermayer, Secretary and Treasurer; Charles Unangst, Counsel; Hon. Noah Davis, Advisory Counsel. The chief offices of the company are at 175 Broadway, New York City.

Knickerbocker Realty Improvement Company.

The Knickerbocker Realty Improvement Company was organized and incorporated in July, 1897, under the laws of New York State, with a cash capital of \$100,000. The object of the formation of this company is the erection of business buildings which are to be constructed and operated by the company. The officers are Homer J. Beudet, general manager; J. Louis Hay, secretary and treasurer; Robert Riggs, president. Mr. Beudet is a well-known builder, having erected and sold in the neighborhood of 300 private houses and apartments in the northern part of the city previous to his entry in the company. Since its inception the company have begun the erection of an eight-story loft building at Nos. 35-37 East 20th street;



LAWYERS' TITLE INSURANCE CO.'S BUILDING.
Malden Lane Front. Chas. C. Haight, Architect.

a similar one at Nos. 30 and 32 East 21st street; also a twelve-story Hotel, at Nos. 116, 118 and 120 West 34th street, near Broadway. On May 1st, the office of the company was removed to the Washington Life Building.

Lawyers' Title Insurance Company of New York.

The Lawyers' Title Insurance Company of New York completed its tenth year in 1897.

Its history has fully justified all that was claimed by its founders as the advantages of a strictly professional title company; that is, a company whose work is entirely professional, managed exclusively by professional men.

Upon the management of a corporation must depend its success; without proper management no fixed capital, however large, can protect against constantly increasing risks, which, with a successful business, must soon reach an aggregate many millions in excess of the largest practical capital.

The character of the management of an insurance company, and particularly of a title insurance company, under ordinary circumstances, will appear in the amount of its losses. The total losses of the Lawyers' Company in ten years, having issued over 30,000 policies, insuring many millions of dollars, has been but \$12,653.37.

Financial success has necessarily followed careful and conservative management. The company's surplus on Jan. 1st, 1898, was \$684,074.44, all of which is earnings except the sum of \$125,000, which was paid in as a surplus on the increase of its capital to \$1,000,000.

While the limitation by law as to the investment of its capital restricts its income from such investment, it nevertheless protects the capital, and this protection is still further materially extended by a provision of law, not applicable to any title companies except those organized under the same law as the Lawyers' Company, which requires that a sum equal to two-thirds of the capital shall be kept invested in certain specific securities, to wit, first mortgages on improved real estate, Government, State, City and County Bonds and real estate, and prohibits the issuing of a policy upon the impairment of this guaranty fund until such impairment is made good.

The advantage which the Lawyers' Company offers to its insured of the opinion of their own counsel as well as the Company's opinion and policy is quite evident, as without additional cost they obtain the best professional judgment and the most adequate corporate guaranty as collateral security.

Naturally the Lawyers' Company has attained a high and assured position in the public confidence, and with its complete machinery by way of plant and well tested methods seems destined to achieve still more notable success in the future than in the past. Its handsome and admirably equipped building, the first erected in this city by any title company, will well repay examination. (See illustration.)

Material Men's Mercantile Association.

The Material Men's Mercantile Association, Limited, was organized for the purpose of protecting building material dealers from builders who through speculative operations or other means were running far ahead of their rating and credit. The Association gives to its members the most important information concerning builders, building contractors or sub-contractors. It keeps a record of liens, judgments, mortgages, conveyances and all transactions affecting builders or building contractors. The records of the latter are carefully preserved and the connection of builders and those who are behind them are carefully noted. The need of such a source of information is readily apparent, because the mercantile agencies cannot give sufficient and reliable information regarding them. Mr. Irving M. Avery is president of the association, and the counsel is the well-known legal firm of Phillips & Avery. The offices of both are in the Tribune Building.

New York Security and Trust Co.

The New York Security and Trust Company was organized and incorporated under the laws of the State of New York in 1889. The company is one of the strong trust companies in this city, and its executive department is composed of practical and sound business men. Its capital is \$1,000,000, with a surplus of \$1,500,000. The officers of the company are the Hon. Charles S. Fairchild, ex-Secretary of the Treasury, President; ex-Mayor William L. Strong, of New York, First Vice-President; Abram M. Hyatt, Second Vice President; Osborn W. Bright, Secretary; Zelah Van Loan, Assistant Secretary. There are twenty trustees, consisting of men prominent in mercantile, legal and financial circles; they are Charles S. Fairchild, William H. Appleton, William L. Strong, James J. Hill, William F. Buckley, Stuart G. Nelson, Hudson Hoagland, James Stillman, James A. Blair, Edward N. Gibbs, M. C. D. Borden, John C. McCollough, Edward Uhl, Frederic R. Coudert, B. Aymar Sands, John W. Sterling, John A. McCall, H. Walter Webb, Edmund F. Randolph and F. W. Stearns.

The company performs and is authorized to perform the many duties of a trust company. In brief, it acts as an executor, trustee, administrator, guardian, agent and receiver. It is a legal depository for court and trust funds. It will manage and take entire charge of realty and personal property, collecting the income and profits thereof and attending to details as one's lawyer or real estate agent does. In addition it receives deposits subject to sight drafts, allowing interest on daily balances and issues certificates of deposit bearing interest. In its bond department the company offers its clients the best class of securities. The company's offices are at No 46 Wall street.

New York Realty Savings Company.

This company was organized and incorporated in 1896 for the purpose of placing loans on high class realty and constructing new buildings on a basis of profitable investment. The field for such a company was a wide one; the members of the concern were well acquainted with the conditions of New York realty and had made them a subject of study and investigation preparatory to the organization of the company. One of their methods which since has been carried to successful termination was the selection of a suitable site for the improvement of the property thereon, and its subsequent sales. Along this line of investment and improvement was the construction of the now well known Royalton Hotel, located in Nos. 44 and 46 West 44th street. As this work is unquestionably the greatest the New York Realty Savings Company has yet completed, it is desirable to give it more than passing notice. The Royalton extends from Nos. 47 and 49 West 43rd street to Nos. 44 and 46 West 44th street. It is a twelve story model apartment house, devoted exclusively to the use of bachelors. The site chosen by the company was a most fortunate one, inasmuch as it is the club center, as well as the social center of New York. It is conveniently located near the Grand Central depot, the proposed Astor-Tilden-Lenox Library and Bar Association of New York City. The building was designed by Messrs. Rossiter and Wright. It is constructed of stone, brick and terra cotta, with a structural iron frame work. The ground floor was so designed to admit of it being used as club rooms for various clubs. Every want has been considered by the architects, and the result is that it is complete in every respect from a valet service in connection with the hotel to a barber shop and bicycle room. The electrical equipment consists of the latest approved devices. A system of refrigerators has been introduced so that air, refrigerated to a temperature of 36 degrees, Fahrenheit, can be introduced in every room. The plumbing is in keeping with the other improvements; it is exposed and completed according to the best sanitary principles.

Before the Royalton was half completed, applications for two-thirds of the space had been filled. The occupants were then permitted to choose what decorations would be used and what alterations they desired; in all cases they were completed by the builder.

The officers of the company are Frederick Billings, President; F. H. Isham, Vice-President; E. G. Bailey, Treasurer; George S. Bixby, Secretary; Benjamin S. Harmon, Counsel; J. F. Merriam, General Manager.

The President, Mr. Frederick Billings, is a son of the late Frederick Billings, President of the Northern Pacific Railroad; Mr. F. A. Isham, Vice-President, and Mr. G. S. Bixby, are attorneys experienced in realty matters, and J. F. Merriam is a practical real estate man with a legal training.

Real Estate Trust Co. of New York.

The Real Estate Trust Company, of No. 30 Nassau street, was organized in October, 1890. It fulfills the duties usually performed by trust companies in acting as executor, guardian and trustee, but its special business is to receive deposits on which interest is allowed. Its depositors are mainly composed of a high class of realty operators and brokers and those connected with the real estate trade. The officers are: Henry C. Swords, president; Hermann H. Cammann, vice-president; Henry W. Reighley, secretary; and the board of trustees is composed of some of the largest realty owners, builders and real estate brokers in the city. The semi-annual dividend declared is $3\frac{1}{2}$ per cent.

REVIEW OF THE MECHANICS' LIEN LAW.

INTRODUCTION.



THE history of the mechanics' lien law in the State of New York is one of gradual development and steady expansion in scope and purpose.

The Legislature has placed 52 Acts upon the Statute book in its efforts to afford this method of security to mechanics and materialmen, the first act being Chapter 330, of 1830, and the present act, Chapter 418, of 1897. This original act seems small and meagre in comparison with the present Statute, yet, perhaps, it accomplished as much as its more pretentious descendant. The first act of 1830 applied only to New York City, and was intended to secure payment to "every mechanic, workman or other person doing or performing any work toward the erection, construction or finishing of any building."

The thoughts of the law-makers of those days did not concern themselves with the palaces and sky-scrapers of to-day, and did not consider the division and subdivision of contracts, which are now of everyday occurrence in this city. It was the mechanic, the day laborer, whose protection they were considering, and the method they devised was the simple one of notice to the owner, who thereupon stood by with the money in his hands, with which contractor and workman arbitrated their differences.

But this apparently proved too simple, for in 1844 it gave way to a law (limited also to New York City) which required the filing of every subcontract in the county clerk's office, before the work on it was begun and which discharged the lien by voluntary release on payment or by a joinder of issues in court on written notices of claim or set-off, served by one upon the other, and proceeding to judgment in the usual way.

This also proved unsatisfactory, doubtless because of its unnec-

essary publicity, and it was repealed by a law of 1851, applicable to New York City, which first introduced the notice of lien to be filed and docketed substantially as we have it now, although it allowed the notice to be filed within six months after completion.

In 1844 an act similar to the New York City act was made applicable to all cities and certain villages named, and in 1851 it was amended to permit the filing of the contract at any time before completion and for 30 days afterwards.

Meantime, in Richmond County, a plan had been put in practice which gave every one working on a building a lien for one year without filing any notice and which permitted an owner to discharge all liens on six weeks' published notice to present claims to him or be barred of their liens. This plan, however, never went beyond Richmond County and it is obvious that it could only be successfully operated in a small community, where neighborhood gossip could be trusted to give general information.

Provision so far had only been made for the cities. In 1851 three counties were given a lien law, next year four more counties received their law; in 1853 Kings County got a Special act; in 1854 thirteen counties were included under one act, and in 1858 this last act was made general among the counties, except New York and Erie. At this last date there were seven or more different lien laws in force in various parts of the State, and from then down to 1885 the confusion increased, as year by year new acts were passed for special localities and this or that county or city put under the provisions of some act or exempted from the provisions of some other acts.

In New York City the act of 1851 gave way to the act of 1863 and that in turn to the act of 1875. In 1876 public works were brought within the scope of the lien law by special act, and in 1885 the legislature passed the first general law applicable to all parts of the State and repealed most of the existing statutes. However, public works, oil wells, railroad bridges and a few other acts were still left on the statute book. This was a good step forward, because the new act was carefully drawn in the first place, and in the second place, as soon as uniformity and certainty were introduced

into the statute, it was possible for the courts to begin to construe it in a logical way and to build up a series of precedents worthy of being followed. Consequent upon this, the whole subject of mechanics' liens has developed into a branch of equity jurisprudence, closely akin in its principles and rules to those governing real estate mortgages. The act of 1897 has recodified the law in a still more logical and orderly method.

The intent of the lien law, as clearly evidenced in the early statutes, was to protect the ordinary mechanic or day laborer, whose labor had gone to enhance the value of the owner's property but who had no claim against the owner, and who, apart from the lien, could not reach the fund in the owner's hands until he had obtained judgment against the contractor. It was speedily broadened to include the man who furnished material, and again broadened to include all who furnished material or performed labor, no matter how remote from the owner, and still further broadened to include every improvement of property, in addition to buildings.

The result has been that nine-tenths or more of the liens filed are filed by materialmen, i. e., dealers in building materials, who in the keen competition of business are tempted to give credit to builders or general contractors not entitled to such credit, from lack of capital, reputation or skill, because the materialmen rely on the supposed protection of a mechanic's lien to save them from that which their business judgment would otherwise disapprove.

THE NEW LIEN LAW.

CHAPTER I.

Who May Have a Lien and What It May Be Had For.

The object of the lien law, from the enactment of the first statute on this subject, has been to give some security to the mechanic or materialman, whose labor or material has passed from his possession by the very act of doing the labor or furnishing the material. The operation of the rule of law which provides that everything attached to the land passes to the owner of the land has prevented and must always prevent the full realization of this security to the laborer and materialman. (See second chapter on this point.)

In the early statutes the benefit of the act was confined to the contractor and those in immediate contract with him; but now the rule is established that any one who performs labor or furnishes material for the improvement of real property with the consent or at the request of the owner thereof, or of his agent, contractor or sub-contractor, shall have a lien for the principal and interest of the value, or the agreed price of such labor or materials upon the real property improved or to be improved and upon such improvement, from the time of filing a notice of lien as prescribed.

We may classify all possible lienors as (a) contractors; (b) sub-contractors; (c) materialmen; (d) laborers.

Anyone may be a contractor, whether he be regularly in the business or engage in it specially or for the first time; in fact, the act defines the contractor to be a person who enters into a contract with the owner of real property for the improvement thereof. He is free to employ any of the usual business methods and so may act through an agent in taking the contract or doing the work. In fact, the agency of the agent need not be disclosed until the filing of the lien, and if the lien be filed in the name of the principal, and

proof of the agency be given at the proper time it is sufficient. So a woman may be the principal and act through her husband as agent. But the proof of agency must be clear, and there must be no taint of fraud. It matters not where the lienor resides, whether in the state or out of it, or where the work is to be done or the material is to be furnished, or where the payment is to be made, or where the contract was made, provided only that the work or material is actually used in the improvement of the real property. Again, it matters not whether the lienor be a corporation, foreign or domestic, or an unincorporated association, or a person or two or more persons, the same test of the actual use of the work or material in the improvement is all that is needed.

A sub-contractor is now defined to be a person who has contracted with a contractor or with a person who has contracted with or through such contractor for the performance of his contract or any part thereof. So that it is of no importance how many intermediate sub-contractors may stand between the lienor and the contractor, provided he be working on part of the job. But only one who is actually under contract for the work or some part can have a lien, so that a person who should purchase from a sub-contractor his right to receive money due him could not have a lien, although if the sub-contractor turn over his contract before the work is begun with the consent of the owner, the man who thus actually did the work or furnished the material could have a lien without any new written contract.

A materialman is a person, other than the contractor, who furnishes material for the improvement of real property. Of course, this is only another term for sub-contractor.

A laborer is one who performs labor or services to the contractor upon the improvement of real property. This may mean more than a day laborer, for it might include the services, for example, of an architect or a foreman or manager.

The courts in their desire to extend the benefits of the act to those for whom it was intended, have sometimes evolved the relation of contractor or sub-contractor from a change of circumstances, although such relations were not contemplated in the first place by

the parties. Thus, if on abandonment of the work, the owner makes use of building material left on the ground the courts will treat the owner of the material so used as a contractor, and sustain a lien filed for their value; or it may be that a surety or endorser will be recognized as a principal and his lien enforced.

A lienor may stipulate to waive his lien, but he cannot cut off the right of those under him to file liens.

A lien may be assigned, and as soon as the assignment is recorded, the assignee stands in the place of the lienor. As the lien is merely security for the debt, the assignment carries with it the lien, but this will not stand against subsequent rights acquired bona fide, unless it is recorded. The same rule applies here as in the recording of mortgages.

Liens may be filed against public improvements in the same way as against improvements of real property, and the same principles apply, with the exception that the public money appropriated for the improvement stands in lieu of the land.

A lien may be had for any improvement of real property, which means any erection, alteration, or repair of any structure upon, connected with or beneath the surface of any real property or any work done upon such property or materials furnished for its permanent improvement; and by real property is included real estate, lands, tenements and hereditaments, corporeal and incorporeal, fixtures, and all bridges and trestle work, and structures connected therewith, erected for the use of railroads, and all oil or gas wells and structures and fixtures connected therewith, and any lease of oil lands or other right to operate for the production of oil or gas upon such lands, and the right of franchise granted by a municipal corporation for the use of the streets or public places thereof, and all structures placed thereon, for the use of such right or franchise. Under such definitions it is difficult to conceive of any work upon real estate which would not be included, and the decisions of the courts on doubtful points or on cases which seemed close to the border line have been in favor of the lien. Thus liens have been sustained (to mention a few instances) for a gas-compressor in a brewery, for a furnace, for terracing and sodding,

for grading, and for improvements for a specific purpose, when intended to be affixed to the freehold.

The original contract between the owner and the contractor is usually in writing, and if drawn in proper and unambiguous language, defines the duties of the contractor and fixes the liability of the owner. This contract may be seen or its terms demanded by any sub-contractor, and the refusal by the owner or his agent to make them known or their falsehood in stating them, makes the owner liable to the sub-contractor so injured, and he may be called upon to pay if a judgment against the contractor proves unavailing.

There has not been a mention of "extra work" in any lien law yet, but a lien based on such claim is good, provided the other elements are present, such as consent of the owner, etc. The basis for such a claim for "extra work" is, of course, a contract supplemental to the original agreement, and the difficulties encountered on such claims are the usual ones of insufficient proof on the two questions; first, of the meeting of the minds, and, second, the value of the work or the materials furnished. Claims for extra work may arise from two sets of circumstances; first, where there is a written agreement, definite in terms, and the claim is based on work or materials clearly outside of this agreement, or, second, the claim may arise out of a controversy as to whether the extra work is or is not included in the original agreement, the difficulty being found in the vagueness or looseness of that agreement. In such cases, lienors frequently fall back on proof of what is the custom of the trade in question, but it often becomes a mere question of construction of language by the court, as where it was decided that "blasting" was not included in "excavating." On the question of extra work a contractor is not bound to furnish extra materials and labor at cost, but may make a reasonable profit to himself.

CHAPTER II.

Against Whom and What.

A mechanic's lien is security for the debt due the lienor, just as a mortgage is security for the bonds.

Just as it is possible for one man to give the bond while another gives the mortgage to secure it, so the contractor may owe the debt to the sub-contractor and the lien be given (by operation of law) on the owner's interest in the land and building. As this lien is given by the law against the will of the owner, the conditions under which it will be given are tightly drawn.

We must, therefore, determine

1. Who is the owner.
2. That he has consented to the improvement.
3. What his interest is.
4. What encumbrances are prior to the lien.
5. What, if anything, he still owes to the contractor.

First, who is the owner :

We cannot determine this question simply by finding in whose name the deed stands, for such a person may be under contract which would make him simply the agent for others. When such questions first arose, the courts held that an owner who had agreed to sell, but who had not yet given his deed, was the owner, and this rule was embodied in the general act of 1885.

But in the new revised lien law, which took effect Sept. 1, 1897, this rule has been completely reversed, and it is now declared that the vendee in possession under a contract for the purpose of real property is the owner. So that now the lien will only attach to such right as this vendee has and still must depend on the contract between him and the owner of the fee. The very fact that the deed is withheld by the owner for his protection will show that the vendee's interest is only a small margin.

In cases where the title stands in the wife's name, while the husband is the operator, no rule can be laid down, and each case must be determined by the facts as they are developed. A lessee or a life tenant in possession is the owner, and the lienor cannot reach the remainder.

Formerly, a purchaser at a foreclosure sale did not become the owner until the deed was delivered to him, but now the lien law has reversed this and provides that his title shall date back to the time of the sale. The effect of this, of course, is to cut off the right to lien, instantly on the sale.

Second, the consent of the owner:

If this be expressly given by the owner, it binds him, and it may be given verbally or in writing; if in writing, it cannot be explained orally to mean something else. If the owner joins in or acquiesces in the order given by the contractor, his consent is clearly given. But the owner's consent once given, may be withdrawn before the work begins, and after such withdrawal, there is no duty on the owner to use force to prevent the work, and his consent being absent, no lien can be had.

Formerly, the tendency of the courts was to extend the consent given by the owner, but the latest decision in the Court of Appeals sharply limits this and declares the rule in these words: "It seems that the requirements of the statute as to consent are not met by a mere general agreement to the effect that a third person may, at his own expense, make alterations in a building occupied by him. The statute requires more. It requires that the owner shall expressly consent to the particular alteration made or that, with a knowledge of the particular object for which they are employed, he acquiesces in the means adopted for that purpose."

But consent may be implied from circumstances, or from the terms of the contract and without proof of express consent on the owner's part. It may be inferred from his conduct and attitude. Actual knowledge on his part may be enough. The consent may be given by his agent or architect. But in all such cases the burden of showing it is on the lienor, and the lienor must satisfy himself

that the actual owner has really "consented." And, on the other hand, if the lease forbids alterations without the owner's consent in writing, or if there be no clause in lease permitting alterations, etc., no consent will be implied, and since the rule is now that a vendee in possession under a contract of purchase is the "owner," such a contract is no longer evidence of consent by the holder of the fee.

Third, what is the owner's interest:

The Lien Law extends the lien to the owner's right, title and interest in the real property and improvements existing at the time of filing the notice of lien, with the proviso that a general assignment for the benefit of creditors shall not prevent the filing of liens as prior claims within thirty days after such assignment. The wisdom of this proviso, viewed from the standpoint of the contractor or sub-contractor, cannot be doubted, for it reserves to them the right for thirty days to come in on the job in advance of general creditors of the assigning owner.

If the owner be a lessee, only his leasehold interest is covered, and in such cases the security is, of course, small.

As the lien binds only such interest of the owner as can be sold on execution, no lien can be acquired against a trust estate, for that cannot be sold; and for the same reason no lien can be had on an inchoate right of dower.

No private agreement between owner and contractor can cut off the sub-contractor's right to a lien, and the Lien Law now provides that if any part of the real property be removed, the lien shall still bind the part removed and the remaining part.

When a lien is bonded or a deposit made, the owner's interest is released, and the lien is transferred to the bond or deposit.

Fourth, what encumbrances are prior:

As the lien attaches only to the owner's right, title and interest existing at the time of filing the notice of lien, there may be prior encumbrances upon this interest. The Lien Law gives the lien a preference over any conveyance, judgment or other claim, not docketed or filed at the time of the filing of the lien; and over any

advances made upon any mortgage or other encumbrance thereon after such filing; and over the claims for work not yet performed or materials not yet furnished on a job, where the owner has made an assignment for the benefit of creditors within thirty days before the filing of the lien.

This cuts off all questionable or fraudulent encumbrances and gives the liens in their order priority over everything not bona fide existing encumbrances. The new Lien Law now adds another preference and says that liens shall also have priority over advances made upon a contract by an owner for an improvement of real property which contains an option to the contractor, his successor or assigns to purchase the property, if such advances were made after the time when the labor began or the first item of material was furnished, as stated in the notice of lien. So that hereafter if the owner makes the building loan, his whole interest, advances included, is subject to the liens. The advantages of this to material men are apparent.

The new Lien Law also provides, in the case of conflicting liens under an operation involving several houses, for priority upon the separate houses, according to the actual work performed and materials furnished.

Nothing but actual payment in good faith will relieve an owner; hence an attempt on his part to create a fraudulent mortgage is null and void, and if he gives a mortgage to the contractor in payment, such mortgage will be held to be in trust for the lienors. A fraudulent mortgage will, on proper proof, be set aside in a suit to foreclose a lien.

Fifth, what, if anything, the owner owes the contractor:

As the owner is not under contract with a sub-contractor there is no direct liability on his part to such sub-contractor; but the intention and operation of the lien law is to sequester such liability from the owner to the contractor, as may remain undischarged, and to divert this to payment of the sub-contractor. The compulsion to such payment is effected by the giving of the lien with the right of foreclosure and sale. Hence, before it can be known whether the

lien is of value, it must be determined what, if anything, is due from the owner to the contractor.

This is the problem of greatest difficulty under the lien law, and can only be touched upon here. Let us simply note now that under the act of 1885 the rule by which to determine the balance due the contractor was to deduct from the whole contract price the amount paid the contractor plus the value of the work not yet done. The balance was the amount earned and due, and hence covered by the liens of the sub-contractors. The new Lien Law declares the rule to be that the balance due the contractor (and hence available to the lienor) is the sum earned and unpaid on the contract at the time of filing the notice of lien and any sum subsequently earned thereon. The thought is the same; it is simply another way of stating it. The practical effect of it, however, will be to shift the burden of proof on such questions from the owner to the sub-contractors. While the rule required the deduction of the value of the work yet to be done, it was the owner who necessarily had to bear the burden of showing how much this was. Now, however, the rule gives the lienors the sum earned, and they must prove what that is.

CHAPTER III.

The Acts of the Owner as Affecting the Lien.

The consent of the owners as one of the elements of the lien has already been discussed.

The act of the owner may affect the lien in four ways:

1. By shifting the title.
2. By performance on his part.
3. By collusion with the contractor to defeat the lien.
4. By election to proceed on abandonment by contractor.

First, shifting the title:

Since the lien binds only the interest, etc., of the owner, existing at the time of filing the lien, and since the consent of that owner to the making of the improvement must be shown, it follows that a bona fide conveyance will destroy this right to lien, for the consent of the new owner will be utterly lacking. The Lien Law seeks to guard against this chance in the only way open to it by providing that a lien may be filed before the work is done. This safeguard, however, is completely neutralized by the ethics of business which forbid a lienor to file his lien until in actual danger of loss. If good faith be lacking, the conveyance is, of course, null and void and will be set aside in the action brought to foreclose the lien.

In the case of an assignment for the benefit of creditors, the lien law suspends the operation of the above rule for thirty days and permits liens to be filed during that period under claim of priority.

Formerly, it was held that when the owner died there was such a shifting of title as to cut off the right to lien, but among the changes in the new Lien Law is one expressly providing that this right shall not be affected by the death of the owner before lien filed, and few will be found to question the justice of the new rule.

Second, performance on owner's part:

The only obligation resting on the owner is to pay the agreed price, and if this be done in good faith, there remains nothing to

which the lien can attach. When the payment is made in cash, the question of good faith can generally be readily determined, but when payment consists of the giving of a note, or the repayment of a loan or an allowance in settlement of accounts, the question becomes involved. Thus the mere delivery of a check is not sufficient proof of payment; and if the owner make a payment to the contractor after lien filed, but before notice has been served on the owner, the presumption will be against the owner.

The mere agreement to take a promissory note in payment does not cut off the right to lien, if the note is not paid when due, and the taking of a promissory note for the amount due, does not cut off the right to a lien, but only suspends the enforcement of it during the period for which credit is given, and the notes being due and surrendered at the trial, they will not stand in the way of an enforcement of the lien.

Adjustment of accounts and applications of payments in a particular way will be permitted, if done in good faith, especially if the question be simply between owner and contractor. When a contractor has two claims against the owner, one secured by lien and the other unsecured, it is proper for him to apply a payment received from the owner on the unsecured claim, especially if that be the older. So an agreement to pay for repairs by an allowance in rent is computed as soon as the allowance is made and no lien can attach. As between owner and contractor, a personal loan from the former to the latter may be used in settlement.

But there being no contract liability on the owner's part to any one but the contractor, payments made in good faith to the contractor will cut off the right of a sub-contractor to lien; and similar payments to a sub-contractor will have the same effect on his creditors, and this is not altered by the fact that subsequent payments under the contract may become due to the contractor.

Third, collusive or advance payment:

Any payment made by the owner for the purpose of avoiding the act or in advance of the terms of payment, shall be unavailing against a lienor, and the owner shall pay the sum over again, or as much as may be necessary to satisfy the lien or liens.

In such cases the presumption is against the owner, and the courts will hold him strictly to proof of good faith ; and if by any act on his part lienors have been induced to defer filing liens, they may recover from the owner the amount due at the time they were lulled into a feeling of security and deferred action.

Fourth, the owner's election to proceed on contractor's abandonment:

All building contracts may be divided into two great classes ; one, in which there is no provision for continuance on abandonment of work by contractor, and the other in which it is provided that the owner shall complete at the contractor's expense and deduct the cost of completion from the contract price or in which the owner is given his election between the one or the other. In the first class, the abandonment by the contractor destroys all right to lien on his part or the part of his sub-contractors. In the second class, the owner either by virtue of the contract or at his election, completes the contract, and in so doing becomes, as it were, the agent of the defaulting contractor. He is, of course, entitled, first, to reimbursement for his bona fide expense of completion, and after that is paid, any difference between that amount and the sum remaining unpaid to the contractor is available to the lienors. If the contract gives the owner the right to elect to treat the contract as abandoned or to complete at contractor's expense, he must distinctly declare the forfeiture, if he so elects, or it will be assumed that he elected to complete.

It is not necessary that the contract be actually completed by the owner before the liens can be enforced, for if the cost of completion can be closely determined, and if little remains to be done, allowance will be made and the balance applied on the liens.

CHAPTER IV.

The Acts of the Contractor as Affecting His Lien.

The obligation of the contractor is to perform certain work or furnish certain material, or both. If he completes his contract to the satisfaction of the owner, there remains only the question of performance on the owner's part, i. e., payment, which has been discussed in the foregoing paper.

But if it is not completed to the owner's satisfaction, resistance to the lien may be expected. Hence we need only consider what shortcomings on the contractor's part are excusable and not necessarily fatal to his lien.

These shortcomings are:

1. Incomplete performance.
2. Delay.

First, incomplete performance :

Of course, willful abandonment of the contract is inexcusable, and the contractor thereby loses all rights. The unexplained failure to comply with some condition of the contract is fatal, so if payment be conditioned on the production of the architect's certificate, the failure to produce the certificate, without proof that it was unreasonably withheld, would be fatal. But if it be shown that the architect's certificate is unreasonably withheld, or that the owner has failed to pay as required by the contract, or has interfered with the progress of the work, or has created conditions which make it impossible for the contractor to proceed, non-performance is excused and the contractor may have his lien for the amount due him. In other words, if it be shown that the contract has really been broken by the owner, and that the contractor has stopped only because of such breach, it will not be counted against him.

As the sub-contractor is the agent or employee of the contractor, no excuse for non-performance on the part of a sub-contractor will

be permitted to a contractor which would not be permitted to him personally.

But most disputes over non-performance usually resolve themselves into what is known as the doctrine of substantial compliance. It is manifestly difficult to provide in the building contract and specifications the manner in which the work shall be done or the nature of the materials to be supplied in so exact and detailed a way that all minds shall agree in their interpretation of them. Because of this difficulty there has arisen this doctrine of "substantial compliance," by which is meant a fair and reasonable compliance on the part of the contractor with both the letter and the spirit of the contract. Just what is substantial compliance must depend very largely on the facts and circumstances of each case, but it has been possible for the courts to deduce some general principles to govern them in applying the rule.

Substantial compliance, then, is enough to sustain the lien, although matters of small amount or value have not been done by the contractor according to the terms of the contract, and the question depends on the contractor's good faith; if he has really intended and tried to complete, but has failed in some few points, it will be considered substantial compliance. So this doctrine will never be applied where there has been wilful abandonment, for that is bad faith in itself.

If, then, only the final touches or finishings of the work remain to be done, to provide which will require but a small sum in money or effort, an allowance will be made the owner and the rule will be applied; but if the defects run all through the work and cannot be remedied, or if the work was to be done in a particular way and it has not been so done, or if substantial additions to the buildings must be made to complete it, or if it is necessary for the owner to expend a considerable sum of money to complete some part of the contract, the rule will not be applied, and the lien will fall for non-performance.

In this connection it is proper to consider the effect of abandonment by the contractor under a contract, providing for payment in fixed installments, as certain stages of the work are reached. Such

a contract is a series of separate contracts, rather than one contract, and will be so regarded for the benefit of sub-contractors, though the contractor cannot set up such an interpretation. Hence as each stage for a payment is reached, such installment become due and payable, and will be covered by a lien of sub-contractor, and such lien will be undisturbed by a later abandonment by the contractor or by the fact that it cost the owner more to complete than the balance remaining after deducting such installment.

Second, delay :

This is something which is always liable to occur and which frequently does occur, and there are few things which create more hard feelings between owners and contractors than delay.

All that can be said on this subject is that, while a contractor is bound to use due diligence, mere delay in completion will not make him answerable in damages to the owner, unless time has been made of the essence of the contract, i. e., unless they have so stipulated. It is customary now to insert a clause fixing a certain amount per day as penalty for delay. This may be enforced against the contractor unless some act of the owner relieves him from it. An alteration in the contract would be such an act, or failure by the owner or his architect to supply needed specifications as required or the owner's failure to keep other parts of the work, not included in the contract, progressing at the proper rate, any one of which would relieve the contractor.

CHAPTER V.

The Acts of the Sub-contractor as Affecting His Lien.

Midway between the owner and the sub-contractor stands the contractor. The sub-contractor can have no dealings with the owner and can make no claims upon him, except through the contractor. Hence to support his lien he must prove performance on the part of the contractor, so as to show some money due him from the owner, and then must show performance on his part, so as to have that money applied on his lien. And as his money does not come to him direct from the owner, but by way of the contractor, he has to face the risk of such legal disposition as the contractor can make of it instead of paying him. Looking at the question negatively, as we did in the case of the contractor, we must consider:

1. Non-performance by the sub-contractor.
2. Non-performance by the contractor and on the subject of payment.
3. Disposal by the contractor of the balance due him.
4. Payment in good faith by owner to contractor.

First, non-performance by the sub-contractor:

All that was said on this subject as affecting the contractor is equally applicable to the sub-contractor. It is possible, however, for a sub-contractor to be recognized under a contract which in form is confined to owner and contractor, and if any active duty be laid on such sub-contractor, such as obtaining the architect's certificate, as a condition of payment, it must be performed or satisfactorily excused.

Second, non-performance by the contractor:

There is privity of contract only between owner and contractor. The contractor takes upon himself the burden of performance as a

condition of payment; if payment is to be made by installments then he must show performance of all conditions up to each installment; if payment is to be made on completion, then he must show completion. The one who takes a sub-contract under the contractor is not in privity with the owner and can only reach him through the contractor; hence he must bear the same burden of proof of performance. The fact that a sub-contractor has performed or is ready to perform his sub-contract will not avail to support his lien; if the contractor has not performed his part and is not entitled to a payment from the owner.

The sub-contractor has no right, as a quasi assignee of the contractor, to complete on the latter's abandonment of the work and so earn the balance due under the contract to apply on his lien, unless the owner assents. He cannot undo the contractor's default by his offer to complete, and he cannot sustain his lien on a claim for the value of the work done. And if there is no clause in the contract permitting or requiring the owner to complete in case of contractor's default, completion by the owner in such case does not avail a sub-contractor.

Third, disposal by the contractor of the balance due him:

Before the amendment of 1896 the power of the contractor to dispose of the balance due or to grow due to him under the contract by assignment or order on the owner prior to the filing of liens, was one of the great weaknesses in the act viewed from the standpoint of the material-man, and was also a cause of great inconvenience to the owner. It benefited no one but the dishonest contractor.

The benefits of the lien law only inure to the sub-contractor or material-man on the actual filing of his lien, and as the filing of a lien almost inevitably precipitates the filing of other liens and the stopping of all credit, the building operation necessarily then comes to a standstill, and the various claimants expend their energies in claiming priority or in other endeavors to secure themselves. This fact, the delicate balance of the commercial side of the operation, tends to the withholding of a lien to the last minute, notwithstanding

ing the doubts and distrust of the sub-contractor or material-man as to the solvency or good faith of the chief contractor. This forbearance gave the latter a free hand to dispose of the balance due or to become due him under the contract. No liens being filed and there being no privity between the sub-contractor and the owner, it was a mere question of debt or money due from the owner to contractor, and as such could be freely assigned by the contractor. All that was needed was to have the assignment or order brought to the notice of the owner or accepted by him, and to have it made for a valuable consideration and in good faith.

As such an assignment was a valid transfer and one which the owner had to recognize as soon as brought to his notice, liens filed thereafter bound only the balance remaining after deducting the part assigned.

The amendment of 1896 sought to remedy this condition by providing that no assignment of the contract or money due or to become due under it or any part thereof, or any order on owner, by the contractor or sub-contractor shall be valid, unless such assignment or order be filed in the County Clerk's office, there to be indexed by him in the lien docket. Thus the amendment introduced two new elements into the law; first, it gave public notice of the assignment or order on the owner, and to that extent it had the same effect as the filing of a notice of lien; and, second, it estopped the contractor or sub-contractor giving the order from disputing the amount due, unless for mistake or fraud, which he must prove. While the amendment does not preclude the contractor from assigning the balance due or to become due him in payment of an antecedent debt or a debt arising outside of the building contract, yet the publicity which must attend such an assignment would deter him from such a course, for such withdrawal or attempted withdrawal of the means of paying his sub-contractors out of the job in hand would mean the instant destruction of his credit and the filing of liens by every one interested. As the amendment applies only to liens on real estate, it is still open to a contractor for a public improvement to assign away the balance as of old.

Fourth, payment in good faith by owner to contractor:

As the lien binds only the balance remaining due and unpaid by the owner to the contractor, it follows that if the owner has paid the contractor in good faith there is nothing to which the lien can attach, and if the contractor fail to pay the sub-contractor, after receiving such payment, there remains only the debt between them to be recovered in the usual way. But a material-man, not having filed a lien, on receiving a payment from the sub-contractor, his debtor, has the right to apply it in satisfaction of a prior debt, and can subsequently file and maintain his lien for the balance due him after satisfaction of the prior debt, if the amount due the sub-contractor be large enough for that purpose.

Acceptance of notes is not payment, but merely a postponement of the right to enforce payment; and a lien may be filed on the maturity of the notes, and if within the 90 days it is valid.

CHAPTER VI.

The Enforcement and Termination of Liens.

A mechanics' lien only arises on the actual filing of the notice of lien in the County Clerk's office; until that is done the possible lienor stands in the same position as other creditors, and has no preferential rights. It may be filed after the work is done and within 90 days, after completion or before all the work is done or all the materials are furnished, provided the contract is afterward completed. And it is now provided that the 90 days shall run from the last item of work performed or materials furnished. A lien filed after the 90 days is utterly void, but, of course, the contract right remains.

Priority is the rule, and the lien first filed will be fully paid before anything is applied on a subsequent lien, provided, however, that laborers for daily or weekly wages have preference over all other claimants, without reference to the date when their liens are filed.

Liens are enforced on the equity side of the court by a procedure similar to that for the foreclosure of a mortgage on real estate, in which all persons who have claims upon the property are joined as parties and the rights of all are examined, adjusted and enforced. If when these rights have been determined and the liens found good, they are not paid, the court will order the owner's interest to be sold and the proceeds applied to the payment of the liens in the order of their priority.

The notice of lien is an important paper, yet it is generally drawn in the greatest haste in the mad rush for priority, when all sub-contractors and material-men are hastening to file liens, because the action of some one among them, in filing his notice of lien, has destroyed the credit of the contractor in the minds of all connected with the job.

The law prescribes a number of statements which must be embodied in the notice, and without entering into details here, let it be

noted that the form and substance of these statements is materially changed by the new law which took effect September 1, 1897. In general it may be said that the lienor is limited to the amount he claims in his notice, and that a false statement wilfully or intentionally made, will render void the lien. How far the courts will permit a lienor to go in explanation of an apparently false statement is still undetermined, but care should be exercised to avoid the need of such explanation. The form of verification has been changed in the new law.

There are three ways of determining a lien on the part of the lienor and three on the part of the owner. The lienor may—

1. Give a satisfaction of lien.
2. Neglect to prosecute it after notice to do so.
3. Fail to begin foreclosure within a year or to obtain an order of renewal.

The owner may—

4. Deposit in court before suit begun the exact amount with interest to date of deposit.
5. Deposit in court after suit begun such sum as the court shall determine.
6. Give a bond, before or after suit begun, to be fixed and approved by the court.

Of course in these last three instances the lien is only terminated as far as the land is concerned, and is transferred to the deposit or the bond.

The lienor's acts:

If the lienor give a satisfaction, it will be his voluntary act, and if he fail to begin action of foreclosure within 30 days after notice served on him it will be because he elects to abandon his lien. But the failure to begin foreclosure within the year is often unintentional on his part. He may forget the passage of time until it is too late, or he may think that his lien is protected by action in other ways which involves him. Thus if foreclosure be begun on another lien against the same property, he must be joined as a party; but the

mere joinder as a party defendant will not obtain for him a determination of his rights, unless he sets up his lien affirmatively in the suit and demands protection. If for any reason which satisfies the court he does not wish to begin foreclosure within the year, he can obtain from the court an order extending the lien one year from the date of the order. But the time limit runs only against the lien on the land, and when this has been replaced by a lien on a deposit or a bond, the latter runs indefinitely and until discharged by legal proceedings duly had.

The owner's acts :

As the lienor's object in filing his lien is to obtain payment, he can have no objection to the deposit of money in discharge of the lien, save that it behooves him then to proceed promptly to foreclosure for the small amount of interest allowed on such deposits is no inducement to dilatoriness on his part.

When the owner wishes to substitute a bond for the land as security for the lien, the lienor has more at stake, for there is the possibility that the bondsmen may not be able to respond when the time comes. He may examine them as to their means and object to them if not satisfied, and the court must then determine whether they shall be accepted or not, but the lienor is under no duty to examine the proposed bondsmen, and the owner who gives worthless sureties on a bond may be punished for contempt of court and fined an amount sufficiently large to indemnify the aggrieved lienor and imprisoned if the fine be not paid.

CHAPTER VII.

The new Lien Law; Changes and Amendments.

There is now in progress, and has been for some years, a revision of the general laws of the State of New York. By this work it is intended to recodify and arrange symmetrically the whole mass of statute law which has been accumulating, year by year, since the last revision. At the last session,* the Legislature received the report of the Statutory Revision Commission on the subject of liens and enacted it as Chapter XLIX. of the General Laws, to take effect on September 1, 1897. Prior to 1885, the lien law was in great confusion, there being a large number of statutes in force and some applying to one county, some to another. The act of 1885 repealed most of these and substituted one general law for the whole State. This was a great gain, for not only was the statute an advance upon any that had preceded it, but by making the law uniform throughout the State it gave an element of stability to the system of protection to mechanics by means of a lien, and, on the other hand, enabled owners to know fully the nature of the claims to be made on them. But useful as was the act of 1885, it was hampered by cumbersome phraseology, and it contained many weaknesses, both for lienors and owners.

The new lien law has followed the act of 1885 in the main and has incorporated also the act of 1878, relating to liens on public buildings, and the other minor acts which related to separate subjects, such as gas and oil wells. The new act has a careful line of definitions which does away with the cumbersome wording of the former act and makes the meaning clearer, and the sections relating only to practice are transferred to the Code of Civil Procedure, where they belong.

But a number of important changes have been inserted in the new law, some of which have been pointed out in the foregoing

*The Session of 1897.

pages. Some of these are in favor of the lienor, some in favor of the owner, and others are simply in the way of greater certainty and uniformity of practice.

Those in favor of the lienor are the following: The extension of the lien to work done beneath the surface of real estate; declaring that the removal of any part of the real property subject to the lien shall not free such part from the lien or affect the lien on the remaining part; declaring void any mortgage, lien or incumbrance made by an owner of real property for the purpose of avoiding the lien, etc.; providing that the death of the owner before lien filed shall not affect the right to file a lien; giving the lien priority over advances made upon a contract by an owner for an improvement of real property, which contains an option to the contractor, his successor or assigns to purchase the property, if such advances were made after the time when the labor began or the first item of material was furnished, as stated in the notice of lien; providing that in the event of conflicting claims under an operation involving several parcels of property, each lienor shall have priority upon the particular building or premises where his labor is performed or his materials are used; providing that a contract for the sale of land with a building loan and any modification thereof, must be in writing and be filed in the county clerk's office within ten days, and, if not so filed, the interest of each party to such contract in the real estate affected thereby is subjected to the liens thereafter filed.

Those in favor of the owner are: The declaration that the vendee in possession under contract for the purchase of real property is the owner; the dating back of the title of a purchaser at a statutory or judicial sale to the lienor of such sale; the requirement for the filing of a notice of pendency of action in an action in a court not of record; permitting sureties to justify together in at least double the sum named in the undertaking.

In liens on public improvements there are some changes in favor of the lienor, such as the including of a contract with the State as a subject of lien; the permitting of the filing of the notice of lien with the financial officer of the municipal corporation, or other

officer or person charged with the custody and disbursement of the corporate funds; and the requirement that the deposit to discharge a lien shall include interest for one year from the date of deposit.

The changes in favor of simplicity and uniformity of practice are: The requirements in the notice of lien of the name of the person with whom the contract was made and the time when the first and last items of work were performed and materials were furnished; a form of verification similar to that used on a complaint at law; clear and definite provisions as to service of a copy of the notice of lien upon the owner and how the notice shall be served if he be absent; a revision of the statement required in the notice of liens on a public improvement and a provision that if the name of the contractor or sub-contractor be not known to the lienor, it may be so stated in the notice; providing for the recording of assignments of lien and the substitution of the assignees for the original lienors; directing that liens continued by order of court shall be redocketed as of the date of granting such order and shall contain a reference to such order; changing the time within which to begin foreclosure of lien on a public improvement from 90 days to three months; permitting two or more lienors to join as plaintiffs in foreclosure; and several minor changes in practice intended to bring about greater precision and clearness.

EDWARD L. HEYDECKER, *of the New York Bar.*

Hornblower, Byrne, Taylor & Miller.

Among New York's legal fraternity, who are prominently connected with the legal part of the real estate business, is the firm of Hornblower, Byrne, Taylor & Miller. The members of the firm are William B. Hornblower, James Byrne, Howard A. Taylor and William W. Miller. As the firm is composed at the present time it was established in 1886, although the organization of the firm antedates that time by nearly a quarter of a century. The firm possesses a large clientele and carries on a large general corporation business. The offices of the firm are located in the Johnson Building, No. 30 Broad street.

THE NEW YORK BUILDING LAW.



THE old New York has passed into history, and the new New York—the Greater New York, as it by common consent is called—has come into being. Broadly speaking, buildings make a city. People in a city protect their lives, their health and their property by ordinances and laws that prescribe how buildings shall be constructed. When a building is to be erected which is to tower above the limit of a fire department to successfully cope with fire, the whole community has a direct interest in demanding that it be so built as not to burn or to topple over in a gale of wind. The humblest building, too, is rightly a subject for public solicitation. In a frame shanty the overturning of a lamp by the kick of a vicious cow started a conflagration that inflicted a loss of a hundred million of dollars upon the citizens of Chicago, and through the distributing medium of insurance upon the whole United States. A man has no natural rights in land and buildings. It is statutory law that secures the weak and strong alike in their peaceful holdings of property, which in the eyes of the law is theirs. Order and safety are maintained through forms of government established by the people themselves. It is by statutory law that the people guard themselves against manifest dangers from improper construction of buildings.

Of all the cities in the United States, New York was the first to enact specific laws relating to the construction, alteration and removing of buildings. Without going back to colonial times, the charter of New York contains, as indeed the charter of every city in the United States contains, provisions for the construction and inspection of buildings. A city charter is an Act of the Legislature, as provided for by the constitution of the State, and confers power on the inhabitants to govern themselves under officers of their own choosing. The Common Council, elected thereunder, is empowered to make, amend and repeal ordinances, rules and regulations for a

variety of purposes, ordinarily including the power to regulate the thickness and manner of construction of brick, stone and other walls for buildings; to regulate the construction of chimneys; to require unsafe buildings to be made safe or removed; to regulate or prohibit the construction of bay-windows, stoops and cellar doors; to require scuttles in the roofs of buildings and stairs or ladders leading to the same; to require fire-escapes and other means of exit from buildings; to prescribe limits within which wooden buildings shall not be erected; to provide for the prevention and extinguishment of fires. The charter of New York has been amended and revised many times, and in some cases these revisions have been made in the face of protests from the representatives of the political majority of the city. Party expediency is the explanation why the powers of one city are restricted more than another and why New York for a great many years past was denied the privilege of enacting local ordinances of much importance. The charter of New York immediately preceding the Greater New York charter contained minute details on nearly every subject, enacted directly by the Legislature. What has been commonly called the building law was simply one of the chapters in a voluminous charter, and whenever that building law was amended it was by amending a portion of the charter itself through the Legislature at Albany. Whether in the crude form of the earlier charters or in the elaboration of the later ones the charters of New York have always provided for official supervision over buildings in the interest of the public safety, health and comfort.

In a primitive way up to 1860 public supervision over buildings was exercised by Fire Wardens, who were elected to office by the engineers of the volunteer fire engine companies. The regulations concerning the construction of buildings aimed chiefly to prevent the erection of frame or wooden structures in the down-town streets. In subsequent years fire limits were established below which frame buildings could not be erected. In 1860 the line was placed at 52d street, from the East River to the North River. In 1866 the line was raised to 86th street, from river to river. The present fire limit east of the Harlem River is 149th street, and on the west side of the city it stretches up to 190th street. There was nothing in any law up to

1885 which prevented the removal of a wooden building from one lot to another, nor from without the fire limits to within the same. Through this lack of foresight any person could have put together the frame work of a wooden building up in the northern part of the city, and then moved it down in bulk or piecemeal to lower Broadway or any other street.

In 1860 a separate building law for New York was enacted by the Legislature. It created a Department of Buildings, and provided for the appointment of a Superintendent of Buildings, a Deputy-Superintendent and eight Inspectors, one-half of whom were taken from exempt firemen. The selection of these officials was made in a curious way. Three members of the Fire Department, together with three members of the American Institute of Architects, and three members of the Mechanics' and Tradesmen's Society met in convention and made the nominations. Immediately thereafter a return was made to the Mayor, who was thereupon required, under the law, to swear into office persons so nominated. The first Superintendent of Buildings, under the law of 1860, was Jonas N. Phillips, who previously had been one of the Fire Wardens. The Deputy-Superintendent was James M. Macgregor. The technical portions of that law were remarkably good. It is this law which has served as the foundation for all the subsequent building laws, a guide for framers of similar laws all over this country. It is true that the law of 1860 contains, for example, no limitation as to the height or width of non-fireproof buildings, but the necessity for such restrictions did not exist at that time. The great buildings, some covering a whole block, without a division wall and some reaching high up toward the sky, came later and were recognized as a menace, not only to surrounding property but to the whole city, demanding regulation by law. It is easier to-day to look into the future of building construction than it was then. And yet the building law of 1887 contains no reference to the method of constructing buildings with a skeleton of iron or steel surrounded with thin brick walls; this method came into vogue later, and its popularity or necessity is seen in the fact that nearly every high building erected during the past few years has been constructed on the skeleton principle. It is, therefore, no wonder

that the framers of the 1860 law did not see farther than they did. It affords no excuse, however, for other framers of buildings laws not to look ahead of their times. No law is retroactive; a building law applies to structures erected after the enactment of amendments or the passage of a new law. Buildings erected under old laws have to stand as evidences of past mistakes.

To the building law of 1860 amendments were made in 1862, in many respects bettering it. The Mayor was given the power of appointing the Superintendent by and with the consent of the Board of Supervisors of the city. Before appointment, the Superintendent was required to pass an examination before a committee from the American Institute of Architects, and the candidate had to be a practical architect or builder. Macgregor became the Superintendent in 1862. In 1866 the law was further amended and much discretionary power was vested in the Superintendent to modify or vary the requirements of the law. It was the manner in which these discretionary powers were exercised that, some years later, brought together representatives from various building trade associations in a determined effort to get a building law that would be comprehensive and fair. In 1871 the building law was still further amended. A limitation was put to the width of non-fireproof buildings, but none to their height. This law created a Board of Examiners consisting of one member from the American Institute of Architects, one member from the Board of Fire Underwriters, two members from the Mechanics' and Traders' Exchange, and the Superintendent of Buildings. There was afterwards added four other members to the Board—one from the Society of Architectural Iron Manufacturers, one from the Real Estate Owners' and Builders' Association, one from the Real Estate Exchange, and the Chief of the Fire Department, making a total of nine members. Before the Superintendent of Buildings could give his consent to any proposed modification of the law in alteration cases, the Board had first to concur. In the case of a new building when there were practical difficulties in the way of carrying out the strict letter of the law, or where the provisions of the law did not directly apply, or where an equally good or more desirable form of construction than the law specified was desired to be

used, the Board was empowered to vary or modify the law, and the Superintendent of Buildings was required to issue a permit in accordance with the decision of the Board.

The law of 1871 continued the great discretionary powers of the Superintendent. It contained several new requirements. One was that iron beams should be tested by actual weight or pressure applied thereon before being set up in place. This was and is an excellent provision in itself and it continues in force to this day and will remain; but the method of its enforcement at the start proved very obnoxious to the iron founders and was the first cause of the architectural iron manufacturers as an organized body, taking up the work of securing a proper building law, and the active interest thus evoked has continued without cessation from that time to this. In 1874 certain amendments were made to the building law, principally to divide the work of the Department into bureaus—a Bureau of Inspection, a Bureau of Violations and a Bureau of Fire Escapes and Iron Work. Again in 1881 amendments were obtained from the Legislature relating mainly to legal and administrative features of the law. But the main requirements of the building law remained without alteration from 1871 to 1885. Macgregor had given way as Superintendent to his deputy, Walter Adams, in 1873, and Adams in turn was succeeded by Henry J. Dudley in 1878. Dudley held the office until 1880, when he was legislated out of office, and the Department of Buildings merged into the Fire Department as a bureau therein. William P. Esterbrook was appointed by the Commissioners of the Fire Department to be the head of the Bureau of Buildings. The place of business was removed from No. 2 Fourth avenue, where it had been located almost from the time when the Department was created, to the Fire Department headquarters at No. 155 Mercer street, and subsequently to the new headquarters on 67th street, near Third avenue. Mr. Esterbrook held office for nearly five years, when he resigned, and A. F. D'Oench was thereupon appointed, who, after a service of four years, was succeeded by Thomas J. Brady, in 1889.

Immediately after Mr. Esterbrook took office in the month of July, 1880, Mr. Fryer called upon him and stated that he and Mr. Charles

Mettam, the architect, and Mr. Matthias Bloodgood, mason builder, had been preparing a complete revision of the building law and offered to furnish the prepared matter to Mr. Esterbrook if he would take up the work of securing a better law. Mr. Esterbrook agreed to undertake the task and the amendments were duly furnished to him. The bill was sent to Albany in the early portion of 1881. The Conkling Senatorial contest in that session of the Legislature prevented final action on that bill. A new bill was prepared and introduced into the Legislature of 1882. Opposition arose and the bill failed. It again failed in 1883. Inspector Esterbrook, as he was then called, issued a call, in compliance with a written request made to him by Mr. Fryer, to the several associations which had taken an active interest for or against the previous bills to meet at the Ashland House and formulate a bill that would be acceptable to all. Equal representation was given to each association, and the bill, as proposed by the conference committee was sent to the Legislature in the session of 1884, the bill still being known as the Esterbrook bill. Opposition to the bill as a whole was still active, and at one time the parlors of two or three hotels held gatherings of builders in opposition to each other. The requirement that new elevator shafts should be inclosed with brick walls perhaps caused more opposition than any other requirement. Chief Bonner has stated that it was the best requirement that went into the bill. The Esterbrook bill passed both branches of the Legislature, but the opponents of the bill had got in so many incongruous amendments on its passage that Governor Cleveland vetoed the measure.

The next year, 1885, the true bill went successfully through both houses, notwithstanding much opposition, and was signed by Governor Hill. The Fire Commissioners had tried to compass the defeat of the bill because it had eliminated the former powers of summary arrest. The bill was in every way a great advance step. It required that all buildings exceeding a stated height should be constructed entirely fireproof. It provided for the safe construction of theatres and other public places of amusement. It was conceded that there were many defects in the bill and Governor Hill was promised that other advance steps and improvements would be made to the law.

The builders came together again with happier results, and in 1887 an amended bill was passed by the Legislature, the only opposition that time coming from the Fire Commissioners because the builders would not restore the arrest clause. After a year or two's experience with the law of 1887 it was seen where it could be improved in many respects; indeed, it became necessary to make certain additions thereto. A new method of constructing tall buildings came into use subsequent to the date of the passage of the law. Application to use that method had to be made to the Board of Examiners in each case. If the construction is good an owner should have the privilege of using it as his right, and not as a favor. Superintendent Brady was desirous that the law should require that all public buildings, schools, asylums and hospitals should be of fire-proof construction. Superintendent Brady called the builders together, and the revision was made in entire harmony. The arrangement of the law was also changed, and all that related to any one subject was grouped together as far as possible, in the order that a building progresses. In 1892 this revision became a law—the present law, which is continued in force for the time being by the Greater New York Charter. Just before the bill was acted upon in the Legislature the builders presented to Mayor Grant their desire that the Bureau of Buildings be taken out of the Fire Department and rehabilitated into a Department of Buildings, and that the bureaus of plumbing, light and ventilation be taken out of the Health Department and put into the new Department of Buildings. With his approval and aid the bill was so amended at Albany as to include these features, and the bill was promptly and almost simultaneously passed in the Senate and Assembly and duly signed by Governor Flower. Superintendent Brady was appointed by Mayor Grant as the head of the new Department and established in new offices at the southwest corner of 4th avenue and 18th street.

The present building law is the result of many years of continuous labor by competent and experienced men, and its comprehensiveness is therefore not to be wondered at. The betterment of the building law was first taken in hand by individuals and trade associations, because their business interests compelled them to take some action,

and circumstances so shaped themselves as to necessitate continuous and unremitting work. Architects, builders, fire underwriters, fire engineers and lawyers have taken part in its several revisions. It is the united work of a large number of the ablest men in the various trades and professions connected with building operations. Among those who have taken an active part in the several revisions of the law may be mentioned: From the Architectural Iron Association, William J. Fryer, J. M. Cornell, Jas. J. Burnet, J. I. Healey, A. J. Campbell, John Cooper, A. J. Post, Wm. H. McCord and Thomas Dimond. From the American Institute of Architects, R. M. Upjohn, George B. Post and N. Le Brun. From the Mechanics' and Traders' Exchange, R. L. Darragh, Warren A. Conover, John Banta, and Edwin Dobbs. From the Real Estate Owners' and Builders' Association, Cornelius O'Reilly, Charles Buek and Thomas Graham. From the Real Estate Exchange, Samuel McMillan, C. W. Luyster and Morris Littman. From the Board of Fire Underwriters, John W. Murray, F. C. Moore, Peter Notman, Wm. M. St. John, Wm. A. Burtis and Stephen Crowell. From the Fire Department, Commissioners Richard Croker, Henry D. Purroy, Elwood Smith, S. H. Robbins, Anthony Eickhoff and Chief Hugh Bonner. Building superintendents, William P. Esterbrook, A. F. D'Oench and Thomas J. Brady. Of lawyers, William M. Findley, George W. Van Sieten and Clifford A. Hand were chiefly consulted. On theatre construction, Francis H. Kimball was the principal adviser. To these men belong the credit of formulating a just and comprehensive building law, and one that stands as a model for the other cities, not only in this country, but in the world.

It has been by a series of progressive steps that the New York building law has been brought up to its present high standard of excellence. The art of building is progressive, and so to keep up with modern methods the building law needs almost yearly changes. The interests, or the supposed interests of individuals have always to yield to the public good, but the wisdom and policy of building well and safely is now generally recognized, and in the end builders, landlords and tenants are all benefited. As a matter of fact very little opposition is longer made to requirements looking to safety from

fire; and this in part arises not from the hopelessness of opposition, but because the building interests have come to recognize that the changes in the building law emanates from men who are themselves directly interested in buildings and who can be relied upon to do that which is wise and good. Naturally a great many minor betterments can be and doubtless will be made, for no one has ever claimed that the building law is perfect, although as a whole it is the best law of its kind ever enacted.

Following the re-creation of the Department of Buildings in 1892, the administration of that department was conducted by Superintendent Brady with general satisfaction to the public for nearly three years, and then came a political upheaval. At the municipal election in 1894 the Citizens' candidate, William L. Strong, was elected Mayor of New York, and he took office January 1, 1895. The State Legislature passed a Power of Removals Act which enabled the Mayor to remove at will the head of any department in the city during the first six months of the Mayor's term. A faction of the Democratic party, headed by James O'Brien, had taken an active part in the Citizens' movement and claimed a reward for their services in electing the ticket. Mr. O'Brien demanded a police commissionership for himself, but the Mayor refused to give him that office. In distributing the plums of office, Mayor Strong informed the committee representing the O'Brien Democracy that they could have the Building Department as their share of political patronage. Superintendent Brady's term of six years had not half run out, and his retention was petitioned for by nearly all the leading architects and builders in the city, but that didn't avail. The decision was that architects and builders were to experience "reform" as well as the rest of the citizens, and without much delay Mr. Brady was removed and a new Superintendent of Buildings appointed. The O'Brien committee presented one or two men for the place, but the Mayor did not approve of them, but finally they hit upon Stevenson Constable and the Mayor appointed him. Three days before he was appointed Superintendent Mr. Constable was an utter stranger to the O'Brien committee and to the Mayor also. He was a new comer in New York, and his political elevation was in the nature of an acci-

dent. He quickly proved that he was not fitted by temperament to administer the duties of his office in a satisfactory manner to the public. The office was managed and controlled in such a manner as to cause great and unreasonable delay and consequent loss and damage to owners of property and others engaged in the erection and alteration of buildings. Mr. Constable was fond of giving out to newspapers sensational statements that were injurious to real estate. In one interview he declared that there are 36,000 buildings in New York built in gross violation of all legal requirements. In another interview he declared that there are 3,200 buildings absolutely unsafe. And again that there are many thousand fire traps in New York. These kind of statements generally followed disasters that reflected on the efficiency of the Department of Buildings. In September, 1896, Mayor Strong was petitioned to remove Mr. Constable from office. The Mayor concluded not to put him on trial, but six months later the Mayor ordered him out of the Mayor's office and declared that he would remove the Superintendent from office at once if he had the power. People who had dealings with the Department of Buildings decided that however valuable "reform" might be in other branches of the city government, they wanted no more of it in their business affairs if it had to be of the kind thrust upon them in the Department of Buildings. It may be recorded as a fact that the Constable administration of the Department of Buildings was the most unpopular part of the Strong government, and cost the reform movement in the first succeeding municipal election more votes than any other cause. In the fall of 1897 the first municipal election was held under the Greater New York Charter and the Tammany Democratic ticket, headed by Robert A. Van Wyck, was successful. On the 1st day of January, 1898, Mayor Van Wyck appointed Mr. Brady as commissioner for the boroughs of Manhattan and the Bronx (New York), and President of the Board of Buildings for a term of six years.

Between 1892 and 1898 the New York building law remained substantially unaltered. Within these six years the frame building district was changed in 1895, the limit of height for non fire-proof buildings was changed from 85 feet to 70 feet in 1886, and to 75 feet

in 1897, and also in 1897 certain requirements for enclosing fronts of buildings in course of construction for the protection of pedestrians was added to the law. A bill was passed by the Legislature in 1897 to abolish the Board of Examiners, and to substitute therefor a Board of Appeal, but this bill did not receive the approval of the Mayor, and therefore failed to become a law. In the latter part of 1895 an invitation was extended on behalf of the Board of Examiners to various architectural and building trade organizations to meet together to make a general revision of the building law. While this revision work was well under way the Legislature appointed a commission to draft a charter for Greater New York. Through a subcommittee the revision work was submitted to the commissioners drafting the charter but the latter decided that a mass of details relating to the construction of buildings did not properly belong in an organic law, but ought to be a matter for municipal regulation; so they purposely omitted the "building law" and inserted in the new charter a section which authorizes the Municipal Assembly to establish a code of ordinances to be known as the Building Code. Greater New York includes New York, the lower portion of Westchester County, Brooklyn, Long Island City, a portion of Queens County, and Staten Island, and this territory was divided into five boroughs, designated respectively: Manhattan, The Bronx, Brooklyn, Queens and Richmond. The charter provided for three commissioners of buildings, and Mayor Van Wyck appointed as such Commissioners Thomas J. Brady for the boroughs of Manhattan and The Bronx, Daniel Ryan for the borough of Brooklyn, and Daniel Campbell for the boroughs of Queens and Richmond. The three commissioners together form a Board of Buildings, and Mr. Brady was designated as the President of the Board. Each commissioner has administrative jurisdiction within the borough or boroughs in which he is appointed. Appeals from the decision of any one commissioner are provided for in the new charter. In the borough of Brooklyn and in the boroughs of Queens and Richmond such appeals are to be made to the Board of Buildings. In the boroughs of Manhattan and The Bronx the old Board of Examiners is continued, and appeals are to be made to that Board. The charter provides

that until a Building Code is established the several existing building laws and ordinances are continued in full force and effect—that is to say, the New York building law in the boroughs of Manhattan and The Bronx, the Brooklyn building law in the borough of Brooklyn, and ordinances in the boroughs of Queens and Richmond. In preparing a building code the Municipal Assembly may appoint and employ a commission of experts. That power is permissive, not mandatory. When the building code is established then the old building laws and ordinances become thereby repealed. Authority to restrict the height of buildings to be hereafter erected in Greater New York is specifically conferred upon the Municipal Assembly.

The “tenement house law” is incorporated in the new charter, and being part of the charter can hereafter only be modified by an act of the State Legislature in the form of amendments to the charter itself. The building code, when established by the Municipal Assembly, can be amended by that body. In the one case is home rule, in the other is rule at the State Capitol.

The history of the New York building law has thus been brought down to the very hour of this publication going to press. Its origin, its development, its administration has been here recorded. Each future year will add material for a further extension of this history of the past. The evolution of building regulations is to be continuous; the requirements for safe and healthful construction in building will be more and more defined, and as the code is amplified the art of building will become largely an affair of legal rule, so that the architect or builder who knows the building law thoroughly is sure to be of more use to his clients than the theoretical constructor. It will be the fault of those directly interested in such matters if unwise, useless or unjust requirements are either continued in or added to existing laws or regulations, or if good requirements are clothed in ambiguity or masked in too technical terms, or that the methods of construction are so closely defined as to leave no opportunity for the introduction and use of new processes or new materials. The fullness, the simplicity and the justice of future building laws will rest with those who are willing to give their time and attention to such matters as a duty they owe to themselves, as well as to the State.

WILLIAM J. FRYER.

LEADERS IN THE BUILDING TRADE.

Thomas J. Brady.

The connection of the Hon. Thomas J. Brady with New York building interests has been very important, both in his capacity as an individual builder and contractor, and particularly so in his relations with the Department of Buildings. As a builder, Mr. Brady has built a class of structures which are a credit to himself, as a result of finished and thorough workmanship, and to the locality in which they are situated. In his capacity as Commissioner of Buildings for the Boroughs of Manhattan and The Bronx and President of the Board of Buildings, Mr. Brady is exercising personal qualities of integrity and sound business judgment, combined with his extensive experience. It was no doubt the possession of these attributes which led to his unqualified endorsement by all the building clubs and unions in this city. It is the unanimous opinion of all legitimate and reliable builders that Mr. Brady's administration, already begun so auspiciously, will be attended with results most desired, and to the attaining of this end he is being well supported. It is furthermore felt by all concerned that the honest, efficient and just administration of the laws of Commissioner Brady's department, such as he has begun, will have a most beneficial effect on the builders and building in this metropolitan city.

Mr. Brady commenced his connection with the building craft in 1870. He served as an apprentice and journeyman mason until, in January, 1, 1884, he was appointed an Inspector in the Fire Department of this city. Three years later he was made First Deputy of the Bureau of Inspection of Buildings in the Fire Department. In April, 1889, he was made Superintendent of Buildings in the Bureau of Inspection of Buildings, which at that time was connected with the Fire Department. When in 1892 the State Legislature passed the bill organizing the present Department of Buildings, by combining the Bureau of Inspection of Buildings of the Fire Department and the Plumbing Bureau of the Health Department, there was none so eminently fitted for the position of superintendent of the new department as Mr. Brady, and his appointment was unanimously indorsed. He occupied that position, arduous as it was, with honor to himself until 1895, when he entered New York's competitive building arena as a general contractor. A partial list of the more prominent buildings he completed, embraces the Central Mills and Grain Elevator, Eleventh

avenue and 63d street; San Remo Hotel, Central Park West; commercial buildings at Nos. 736 and 598 Broadway, Nos. 25 and 27 Waverley place, and Nos. 27 and 29 West 31st street; Hebrew Technical Institute, Nos. 34, 36 and 38 Stuyvesant street; country residences for Hon. ex-Mayor Hugh J. Grant and Thomas F. Ryan, Secretary of the Metropolitan Traction Co.; Ehrich's, Sixth avenue and 22d street; Macy's, Sixth avenue and 14th street.

When in Jan. 1, 1898, the old City of New York absorbed other surrounding cities and towns, the charter of the new city provided that the Mayor of the Greater City appoint a Commissioner of Buildings for the Boroughs of Manhattan and Bronx. When Mr. Brady was declared as a candidate, his candidature was formally endorsed by all the building organizations in the city. The Building Trades' Club, the Builders' League of New York, the Mechanics' and Traders' Exchange, the Society of Architectural Iron Workers, and all the Labor and Trades Unions, without exception, drafted resolutions favoring his appointment. The Building Trades' Club, the strongest building organization in the city, formally waited upon Mayor Van Wyck and urged Mr. Brady's appointment. With such elements of support, and possessing the fruits of his past experience, there can be no doubt that the new administration of the Building Department will be one of the most successful in its history.

The Firm of Luke A. Burke & Co.

The firm of Luke A. Burke & Co. have been doing business as builders and contractors since 1884, and have in that time built some of the largest fireproof buildings in the city; in all, over 40 buildings. Mr. Burke is descended from a family of builders and has no doubt obtained his mechanical knowledge of construction from them. He is one of the most incessant workers and can be found at any time during the day at the buildings he is constructing, directing his foreman. In the evening he can be found until a late hour in his office, either estimating on plans or arranging matters for others in their different positions. His reputation among the different architects for whom he has built is that of a reliable and safe contractor. It is a practice of his when a building is completed to ask the owner for a letter stating how he is impressed with the building. If he is not satisfied, the request is made just the same, and the letters are kept for reference ready for any owner to see what his dealings have been with others in the past. He has photographs taken of all the buildings he has constructed with the architects' and owners' name on same, and the letters of the owners attached, are open for inspection in his office. He has worked himself up from an ordinary journeyman to his present position. Starting in at the age of 13 years, he served his apprenticeship in New York City. He attended the public schools and also Cooper Institute for several years. Before he was 20 years old he had charge of very important

buildings, in church and bridge work, throughout the country for his oldest brother. After his brother's death, he settled in New York City, and began his successful career. He is now a member of several clubs in the city. Among the more prominent of the contracts completed by Mr. Burke are the Wilkes Building, corner Wall street and Broad street; Paulist Fathers' Church, corner 59th street and Columbus avenue; Manhattan Athletic Club, 45th street and Madison avenue; College of Pharmacy, 68th street and Boulevard; Columbus Hall, Orange, N. J.; Freedman Building, Prince and Broadway; Irving Bank Building, Chambers street; Heide Building, Vandam street; Ursuline Convent, Bedford Park; Educational Alliance Building, East Broadway and Jefferson street. It will be seen that Mr. Burke has completed work for some of the best architects in the city.

He has obtained an enviable reputation for thoroughness in every particular branch of his trade. Mr. Burke is naturally very attentive to detail and all his operations have shown that finish which attention to minor matters only can bring about. As a result, Mr. Burke possesses those attributes so necessary to the permanent success of a builder. His career, step by step, in all his contracts, whether it is merely a slight alteration or the erection of some tall office building, has established these facts firmly in the minds of both architect and owners. The address of the firm is 401 West 59th street.

B. D. Chandler.

In the carpentry trade there are as many branches of the craft, and probably more, as there are to be found in the different branches of the building trades. In masonry, which is unquestionably the greatest department of the building profession, there are those who contract for the foundation and solid masonry of the bottom walls; this is the greatest and highest feature of masonry. In carpentry, it is generally acknowledged that the fine interior finish and decoration, together with cabinet work and stairbuilding, embrace a large proportion of our best carpenters. The work requires complete and long experience, and is of such a nature that none but skilled mechanics attempt it. In New York fine cabinet work is carried to a greater degree of perfection than elsewhere in the country, which doubtlessly accounts for our possessing the best class of journeymen in that branch. Prominent among our local carpenter builders who have attained a wide reputation for interior and cabinet work is the subject of our sketch, Mr. B. D. Chandler, of No. 11 Rector street. Mr. Chandler has been actively connected with that branch of the building profession for over thirty-two years. In the beginning of his career he served for many years in the capacity of superintendent of the Western Union Telegraph Company's carpenter work. For over eighteen years he was identified with that company and travelled from city to city superintending the erection and finishing of the company's offices throughout the country. Mr. Chandler at the present



WESTERN UNION BUILDING.

Northwest corner Broadway and Dey street,
New York City.

Henry J. Hardenbergh, { Architects.
Geo. B. Post, }

time manufactures and completes the fine cabinet work, the desk and tables and all the carpenter paraphernalia of a telegraph office, and ships the work from the factory on Rector street to its destination, whether it be as far North as Buffalo, or to the South as far as New Orleans, and West as San Francisco.

Telegraphic office work is, however, not the only branch of Mr. Chandler's business. In many of the banking offices in Wall street and in the stock district, there are to be found the handiwork of Mr. Chandler's journeymen in the fine cabinet work and interior wood-work decorations. Mr. Chandler has been retained by well-known firms for many years, and the alteration work, repairing and general overhauling that have been done for the past quarter century in those offices have been completed by Mr. Chandler. The workmanship displayed in all the work cannot be excelled, and the material used is the best. On those bases Mr. Chandler has built his reputation; he never allowed any element of cheapness to enter into any contract, and the result that his clients hoped for was obtained. Mr. Chandler has also completed residential interior carpenter work.

Charles A. Cowen.

There is probably no better known builder and general contractor in New York at the present time than Mr. Charles A. Cowen. Identified with all the building trade associations in this city and holding various offices in national associations, he has worked earnestly and to a great degree successfully in the interests of the building guilds. He is one of the charter members of the Building Trades Club, and to him belongs the distinction of having called that strong organization into existence. It was he who at a meeting of the old Mechanics' and Traders' Exchange drafted the resolution which contained the nucleus of the future Building Trades Club. At the present time he is one of the Board of Managers, and was the presiding officer during the years 1895 and 1896. He is the first vice-president of that historic labor organization, the General Society of Mechanics and Tradesmen, and fills the position of secretary of the Mason Builders' Association of New York. In national building associations Mr. Cowen represents the National Association of Builders in the Board of Mediation and Conciliation, of which Bishop Potter is president, and is the delegate at large from the local Mechanics' and Traders' Exchange to the National Association of Builders. Mr. Cowen fulfils the duties of his many offices, which he has never striven for, but have been thrust upon him by reason of his adaptability, in a manner that is most commendable.

He is thorough in his knowledge of the building trade, and is known to be one of the best experts in this city in masonry, particularly in that of a heavy description. He began his apprenticeship with his father, a well-known New York contractor, and continued with him, familiarizing himself with all the details in the building trade. Afterwards, from 1878 to 1885, he associated himself with his

father as a partner, and the firm carried on a successful business. At that time the firm made a specialty of residential buildings in the northern part of the city. In 1885 his father died, and he continued the business with most gratifying success. Architects and investors have learned to know him as one of the most thorough and capable of our local builders, and as a result some of the large office and heavy fireproof warehouse buildings have been erected by him. Of late Mr. Cowen has made a specialty in this line, and he is devoting more of his attention to that branch of the building trade. He numbers among the work completed by him many stores, warehouses, apartments, dwellings and public buildings throughout the city.

Among the more important contracts completed by Mr. Cowen are: Stores and offices, 15 stories, Nos. 9-13 Maiden Lane; fireproof stores and offices, 8 stories, Nos. 29-33 East 19th street; stores and offices, 10 stories, fireproof, No. 708 Broadway; stores, 11 stories, fireproof, No. 714 Broadway; stores, fireproof, 6 stories, Nos. 43-49 Bleeker; warehouse, 7 stories, No. 39 Great Jones street; warehouse, Nos. 571-573 Hudson street; factory, 6 stories, Nos. 341 to 351 West 26th street; clubhouse, 71st street and Sherman Square; apartments, No. 29 West 26th street, northeast corner 91st street and West End avenue, southwest corner 113th street and Seventh avenue; 4 dwelling houses, Nos. 11-17 East 60th street; 5 houses, southwest corner 104th street and West End avenue; No. 8 East 61st street; 3 houses, Nos. 326-330 West 88th street; 9 houses, south side 73d street, east of Columbus avenue; Y. M. C. A., Harlem, 125th street, near Fifth avenue; synagogue, Nos. 20-22 Forsyth street; Manhattan Hospital, 131st street and Amsterdam avenue; Flower Hospital and Homœopathic College, 63d street and Avenue A.

John D. Crimmins.

Mr. John D. Crimmins, a contractor of large public and private works and a man of national repute, was born in New York in 1844. His father was largely entrusted with the development of the East Side, in that locality of which 59th street is the main thoroughfare. He opened many streets and performed other public work.

This was the means of making Mr. Crimmins acquainted with the owners of property and gave him an early opportunity of acquiring a knowledge of values. He purchased property before he was of age. In 1860 he entered his father's business. Afterwards he added building to the contracting business, and has been engaged in the erection of buildings from that time to the present, having erected more than 400 houses. His familiarity with the values of property caused him to be selected as an arbitrator, where disputes between property owners occurred as to the value of lands where the property was to be straightened to conform to the street lines. His valuations in every instance have been taken as a basis of settlement

of estates. He carried on successfully the direction of his father's business for several years, and then alone for a number of years. His brother had been associated with him in the contracting business until January, 1897. His building and real estate operations were on his personal account. In the contracting business he was the first to use and apply machinery extensively. The steam drill had frequently been attempted, but was not used successfully until his employment of it. Having been first in possession of this class of machinery he had no competitors for large and difficult excavations for some time, and in 1874, when 30 years of age, his reputation was sufficiently established to have large works entrusted to him, which he planned and executed for private individuals and private corporations. Public work requiring great executive ability and engineering skill was entrusted to him by the President of the Croton Board, and by the Chief Engineer of the Department of Public Works. The large public contracts which he carried on were but a small percentage of his contracts. He was also employed in the establishment of gas plants for the New York Gas Company, Metropolitan Gas Company, Municipal Gas Company, Equitable Gas Company, the Harlem Gas Company, afterwards the Consolidated Gas Company, and out-of-town companies. Mr. Crimmins also built part of the elevated system. He built the first subway, and all of the subways for three years after the subway law was passed. Many of these works he carried on on a percentage basis. He built the Broadway and Columbus Avenue Cable and the new electric roads. Before the cold storage process was discovered brewers sought locations where they could build deep cellars. Mr. Crimmins was employed by all of the brewers of the city and built many of the deep cellars and excavated several tunnels in which beer was kept in storage. He has been chairman of the building committees of several organizations, and had the erection of hospitals and schools under his charge. He has been a member of all the important committees during the last fifteen years. He has been connected with municipal celebrations. He was the treasurer of the Property Owners' Association for the improvement of property, both on the East and West sides. He was one of the first members of the West Side Association, now known as the West End Association. For five years Mr. Crimmins was a Park Commissioner, serving as President and Treasurer.

Mr. Crimmins has had over 12,000 men at times directly under his charge, and many more thousands in work carried on by sub-contractors. He has never had a serious strike, which has enabled him to maintain the most friendly relations with the working people.

He still continues to be active in building operations. He is on the Executive Committee of the City and Suburban Home Association, and a member of the Model Tenement House Association, and President and Treasurer of several corporations.

V. J. Hedden & Sons.

The firm of V. J. Hedden & Sons was established in 1881. They are the successors to the firm of Meeker & Hedden, well known in the metropolitan building industry for a period extending over half a century. The elder Mr. Hedden, with his three sons—C. R. Hedden, L. O. Hedden, and S. S. Hedden—has carried on a most successful business since the inception of the new firm, and as general carpenters and contractors they have few peers and no superiors in New York building circles.

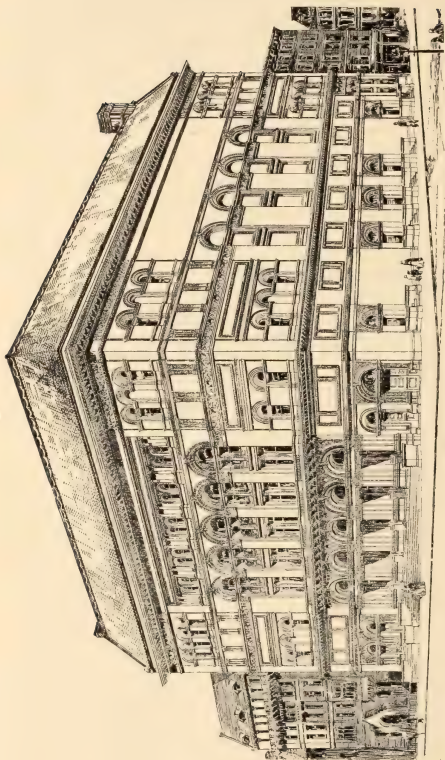
Their immense factory, yards and kilns are located on the Passaic River, in Newark, N. J. The yards, in which are stored all kinds of lumber, including fine cabinet woods, fill entirely one block and a half. The three-story factories, including the dry kilns, occupy a block. On an average six hundred to seven hundred men are employed. Regarding the factory, there is none more completely fitted with the most modern machinery with a view to dispatch in completing contracts, and more particularly to obtain the highest quality and acme of perfection in the class of goods manufactured. In the case of well-known manufacturers of house trim, standard sizes are usually kept on hand ready for immediate shipment. In the case of the firm of V. J. Hedden & Sons, they manufacture no stock, but what is particularly specified, and by special detail. So immense is the capacity of their works that the firm is enabled to complete any contract, regardless of size, within the time limit.

There is no question that the firm has been awarded some of the best class of building operations which have ever taken place in this country. The reason is readily apparent when one considers that the firm turns out work with greater facilities than any of their competitors, and as builders or general contractors, they have profited by their greater advantages. It may be well to give a partial list of buildings completed by them: In residences, Wm. K. Vanderbilt's on Fifth avenue and also at Oakdale, L. I., the residences of E. C. Benedict, W. J. Hutchinson, H. G. Marquand, Fred Bronson, Greenfield, Conn.; E. D. Morgan, Wheatly, L. I. Among their office buildings are the "Mail and Express" Building, the "Times" Building, the Havemeyer Building, the St. Paul Building, the Gillender Building, the American Surety Building, the Empire Building, Delmonico's downtown restaurant; the Bank of Commerce; Martinique Hotel; among the clubs, hospitals and factories they have built are the Metropolitan Club, the Century Club, Deutscher Verein, the New York Hospital, the Plaza Hotel, the Fourth avenue horse-car stables, Richardson-Boydton Co. factory at Dover, N. J., the Mile End Thread Works, Newark, N. J., the Singer Building, Newark City Hospital, Gerard Foster's residence in Lenox, D. Willis James' residence in Madison, N. J., and the Sprague Electric Elevator Plant, Watsessing, N. J. The firm has completed work for

such prominent architects as Carrère & Hastings, McKim, Mead & White, George B. Post, Kimball & Thompson, Ernest Flagg, W. H. Russell, R. M. Hunt, and Peabody & Stearns. It may be explained that the firm aims to do none but the best class of work, and have found it necessary to make no contracts but those of the larger and better jobs.

Isaac A. Hopper.

The subject of our sketch, Mr. Isaac A. Hopper, belongs to the class of New York builders who have attained a pre-eminence in their trades to which only a few arrive during their career. Mr. Hopper is a representative New York builder of the highest rank. He has won experience from the bottom of the ladder in all the varied stages of success and disappointment which beset one in one's career, and he profited by it. To-day, Mr. Hopper can point with pride to any of the contracts which he has completed, from his first modest contract involving the expenditure of \$375, to his latest and greatest work, that of the Third Avenue bridge, the cost of which will be \$1,750,000 and is now in course of completion. He has not confined his operations to any particular class of building as a contractor. He was able to complete with equal success the solid masonry of the N. Y. C. & H. R. R. viaduct lying north of 94th street, and the New Netherlands, one of the three great hotels on the Plaza, which was erected by William Waldorf Astor when the structural steel buildings were then considered experimental. His contracts embrace all classes of work, varied from the routine work of following architectural specifications of a four-story and basement residence to the construction of the Washington Monument at Newburgh at the Washington Headquarters. There is not a question of a doubt in the minds of any of our prominent American architects, but that Mr. Hopper is capable in the highest degree of taking charge and carrying to a successful termination any of their works. Mr. Hopper can point to such structures as the Emigrant Industrial Savings Bank, the Koch Building, the Academy of the Sacred Heart, the Montefiore Home, St. Michael's Episcopal Church, the 8th Regiment Armory, and the power house for the Third Avenue Cable Railroad Company, at Kingsbridge, the latter costing a half million dollars. For the Children's Aid Society, Mr. Hopper was secured to build four schools which are located at No. 215 East 21st street, No. 410 East 71st street, 11th avenue and West 53d street, and at No. 219 Sullivan street. In modern office buildings he has completed the structure on the site of the old New York Hotel, known as the Commercial buildings and the Spingler Building in West Union Square, near 14th street. There can be but brief mention made of the work involved in the new Third Avenue Bridge, which Mr. Hopper is now completing; suffice to say that the work will stand as a monument of the skill and thoroughness with which it was completed when



CARNEGIE MUSIC HALL.

Seventh Avenue and 57th Street, New York City.

(1890.)

Wm. B. Tuthill, Architect.

with the march of progress the aspect of the whole vicinity will have been changed.

Mr. Hopper has erected the famous Carnegie Music Hall in 57th street and 7th avenue, and the recent additions which have been made. Among hotels and apartment houses there are the Marie Antoinette, at 66th street and the Boulevard; the Normandie, at 38th street and Broadway; the Portsmouth, in West 9th street, and the Hampshire, in the same street. In Trinity Cemetery, mausoleums involving the highest class of masonry have been erected by Mr. Hopper for a large number of New York's old and wealthy families. His address is No. 219 West 125th street.

John J. Hopper.

Heavy, solid masonry and the construction of proper beds and foundations on which large structures are erected has long been the highest form of masonry. Since the early days in the world's history when labor counted for nothing and kings and governments erected temples and public buildings many of which are yet in existence or if not entirely so the foundations and foot walls still remain, the most important features in the construction of the entire edifice were the bottom walls and the foundations on which the superstructure was to rest. Great care and wide experience in the building craft were absolutely necessary; so also was a scientific and practical knowledge of strata of rock and what geological formation was best adapted for foundation purposes; here also technical knowledge was called into requisition, that expert knowledge gained only by study and practice. Out of a selected few in those days some were chosen who were entrusted with the work. And so it is at the present time.

The beautiful buildings of Columbia College, crowning the bluff overlooking the Hudson, belong to the most important class of masonry constructed in New York in recent years. They are so built that when centuries have elapsed they will then have attained the appearance of the old European universities, built cycles ago. The Columbia authorities recognized that only the best builders of the day were to be retained. The work was of such importance that such was imperative. Of the selected few who were chosen to enter in competition and tender for the work was the subject of our sketch, Mr. John J. Hopper, a man eminently qualified, both by his practical experience and theoretical education for the work he has now successfully completed. He has been connected with some of the most important of the large constructive masonry work in the metropolitan district for the past eleven years. Four years ago he entered, on his own account, the higher contracting field in New York. He is a graduate of Dartmouth, taking the degree of Bachelor of Science in 1877. He afterward took a post-graduate course in the engineering department, and obtained the degree of Civil Engineer in 1885. Mr. Hopper was one of the three who were per-



JOHN J. HOPPER.

mitted to figure on the excavations, foundations and bottom walls of Columbia College buildings, the rest of which was afterwards finished by the largest building firm in the world. He, it may be said to his credit, completed the contract awarded him in the most scientific and skilled manner. One of the engineering feats accomplished by him was the rebuilding underneath a retaining wall twenty-five feet high and ten feet thick and six-hundred feet long, another wall of brick of the same thickness. This was done by the Columbia authorities, as it was found that the old wall was not high enough. Another contract in which Mr. Hopper's skill is shown is that of the heavy masonry of the N. Y. C. & H. R. R. viaduct, from 115th street to the Harlem River, along Park avenue. Here the excavating for a solid foundation for the immense traffic of that railroad was done under the most unfavorable circumstances. The longest time between trains was three minutes, and the big boulders dislodged by blasts had to be quickly removed. Not a train was delayed during the progress of the work. Mr. Hopper has for the past year entered the general contracting arena of New York, which he has found a good sphere for his talents.

He possesses in every respect those qualifications which all first-rate architects demand of builders. He is thorough in detail, permits none but the best materials to be used, and employs highly-skilled labor. With the reputation and attributes he possesses, Mr. Hopper will undoubtedly make general contracting a decided success. His address is No. 215 West 125th street.

Jeremiah C. Lyons.

Mr. Jeremiah C. Lyons is one of the most prominent builders in New York. Beginning in a small way, possessing no prestige as a builder, he has succeeded in establishing for himself amidst the keenest competition and in this progressive city, a reputation of which one may well be proud. Mr. Lyons' father was a mason builder, and it was probably on this account that he first decided to learn the trade of a mason. Unfortunately, his father died when his son was fourteen years of age, but this did not deter him from fulfilling his desire. His financial resources were most meagre, both his parents were dead, but he possessed a strong will power and a determination to succeed which afterwards profited him much. Every evening for four years during his apprenticeship he took part in the sessions at Cooper Union, where he acquired a technical knowledge of his trade. In 1873, after working as a journeyman mason for a few years, he decided to become a mason builder and general contractor. Six years after he entered into partnership with a former journeyman friend and the firm became known as Giblin & Lyons. At that time Mr. Lyons paid special attention to machine and boiler setting and heavy foundations generally. In this he was very successful and it is his boast that structures erected by him have never settled even to the extent

of half an inch. About that time he successfully laid the foundation and erected the Obelisk in Central Park and the foundation for the United States Barge Office at the Battery, which lies wholly in the water. In 1883, Mr. Lyons bought his partner's interest and since that time he has carried on his extensive business alone. Shortly after the dissolution of partnership Mr. Lyons changed his policy somewhat and entered the general contracting field on a wider scale. A list of some of the more prominent ones is probably the best indication of the part played by Mr. Lyons in the building trade in this city: Mt. Morris Bank, Harlem Club, Harlem Baptist Church, Baptist Church, 126th street and 6th avenue; Presbyterian Church, 127th street and 7th avenue; Berkeley Lyceum and Berkeley School, St. Monica's Church, Annex to Produce Exchange, 733-735 Broadway, N. W. corner Broadway and 4th street; 491-493 Broadway, 592-596 Broadway, Waverley place and Greene street, N. W. corner Bleecker and Greene streets, Y. M. C. A. Building in 124th street, near Lenox avenue; corner South William and Stone streets, large granite staircase at 116th street and Morningside Park, bridge connecting Manhattan square with Central Park, besides a large number of residences, apartment houses, theatres, churches and stables. His address is No. 81 East 125th street.

James D. Murphy.

A builder who is known for his versatility, as well as for the quantity and quality of his work, is James D. Murphy, of No. 1183 Broadway. Mr. Murphy started in business in 1882, at No. 200 Broadway. He remained at the same address until May, 1897, when he moved into his present quarters. Mr. Murphy's work embraces all classes of buildings, from factories to dwellings and churches. For New York City he has built the armory of the 22d Regiment, the armory of the 9th Regiment and the 7th Judicial District Court House. The churches he has built include Zion and St. Timothy's, St. Anthony's and Rectory, in Sullivan street; Lutheran, 88th street; St. John the Baptist, St. Lawrence's Rectory, and St. John's, White Plains, New York.

Although Mr. Murphy has built for the most part very large structures, he has also erected some handsome dwellings. Notable among these are the residences of Mr. Frederick Benedict, Mr. Harvey Kennedy, No. 675 Fifth avenue, and Mr. Henry Behr, Brooklyn.

There is no greater test of a builder's ability, perhaps, than the construction of modern office buildings. On account of their great height, the enormous amount of weight to be borne by each floor and the peculiarity of the steel construction, they are indisputable evidences of the skill and technical ability of their creators. Mr. Murphy's work in this direction may be seen in the Stevens Building, the Banks Building, the Shultz Building, and the Montauk Building.



NINTH REGIMENT ARMORY.

Jas. D. Murphy, Builder.

W. A. Cable, Architect.

Among the general work done by this builder are the United State National Bank, the Madison Avenue Hotel, Hotel Renaissance, Union Club annex, 20th street and Fifth avenue; St. Francis Xavier College School; New York Catholic Protectory, Convent A. C. J., Sharon Hill, Pa.; St. Elizabeth's Home, Staten Island.

Other buildings are Holy Cross School, St. Monica's School, Grammar School No. 63, 173d street and Third avenue. Also Cel-lar Bros.' Warehouse, on West Broadway, and the factory of Baker, Smith & Co. The size of the foregoing list, when the prominence of the buildings is taken into consideration, is remarkable. Not only is it a record of which any builder might well be proud, but it shows a capacity for work and an amount of resource far removed from the ordinary.

Mr. Murphy's success is due, it may be briefly stated, to the fact that he is thoroughly familiar with all details of the building trade. He, himself, a most finished and practical man as a journeyman builder, is in every way competent to judge of work done under his supervision. In this respect he has set a high standard to which all his employes must conform. The result is easily apparent when one observes a building completed under Mr. Murphy's direction.

McCabe Bros.

There has been no name that has been so prominently connected with the better class of building in New York during the past fifteen years as that borne by the subject of our sketch. The firm of McCabe Bros., of 45 Liberty street, represents every element of that class of builders who have been intimately associated with our well-known architects and instrumental in successfully carrying out their plans.

In the firm, as it was for a long time known to the building trade, there were three brothers, Lawrence McCabe, Peter McCabe and Bryan McCabe. They came to New York about fifteen years ago and entered the severe competitive market of the metropolitan arena. They were well equipped for their prospective competition; they were familiar with the building trade in all its branches. They had been graduated from the trade as mason builders and had passed through it in all the phases of apprentices, journeymen, contractors, and finally general builders. Combined with the practical experience, and it may be added that each member was considered an expert at his trade, the firm collectively possessed that necessary attribute to business success—executive and managerial ability. These facts soon became apparent to the building trade of New York when the firm of McCabe Bros. had been successfully launched in the competitive arena referred to, and the first large contract had been completed with the precision, thoroughness and rapidity which characterized the completion of their contracts since. In reviewing the list of the more prominent buildings completed by McCabe

Bros., one can readily see that the firm is in close and intimate connection with New York's representative architects.

To the building world one can give no better evidence of the status of a firm than by submitting a list of buildings which that firm has completed. In the case of McCabe Bros., we can give but a partial list, but we submit the more prominent. These are: Woodbridge building, a fourteen-story office building on John street; Sheldon Building, southeast corner John and Nassau streets; Rhinelander Building, Duane and Rose streets; No. 232 William, twelve-story office building; Mohawk Building, No. 160 Fifth avenue; Mercantile Building, southwest corner 22d street and Fifth avenue; Hoe Building on 28th street, near Broadway; Bancroft Building, Nos. 5, 7 and 9 West 29th street; West Side Y. M. C. A., on 57th and 56th streets; Century Club Building, 43d street, near Fifth avenue; Academy of Music on 43d street, near Century Club; Holland Building, on 40th street and Broadway; Ehrich Stores, on 23d street and Sixth avenue; New York Club, 35th street and Fifth avenue; D. C. Blair's private residence, No. 6 East 61st street; No. 13 Astor place, Clinton Hall; C. T. Yerkes' residence, on Fifth avenue and 68th street, and the Stokes Building on Cedar street. It can be seen that the firm has completed work for such architects as Charles W. Clinton, George E. Harney, Wm. Russell, Clinton & Russell, McKim, Mead & White, R. H. Robertson, Parish & Schroeder.

In February of 1897 Lawrence McCabe died, and a month afterwards his brother Bryan followed him, leaving Peter the sole charge of their immense business. The name so well-known, McCabe Bros., has not been changed.

Norcross Brothers.

The contracting and building firm of Norcross Brothers is, without a single exception, the largest and most extensive building concern in America. They commenced business in 1864 in Salem, Mass., and in 1867 moved to Worcester, Mass. The erection by them of the larger number of the superb designs of the late distinguished American architect, H. H. Richardson, and many of those of other noted American architects, has established for them a national reputation. Possessing granite quarries in Milford, Mass., and Stony Creek, Conn., producing granite of four different colors; sandstone quarries at East Longmeadow, Mass., producing sandstone of three different colors; marble quarries at Tuckahoe, N. Y., producing a beautiful white marble; large stone working plants at Boston, Mass.; Cleveland, Ohio; Providence, R. I., and Tuckahoe, N. Y.; and having extensive iron and wood-working shops in Worcester, all of which are thoroughly equipped with the most approved machinery, they have most extraordinary facilities for erecting buildings in any part of the country. They have offices in Worcester, Boston, New

York, Providence and Cleveland, and there is scarcely a city in the country of any prominence in which this firm has not left an example of its skill and greatness in the shape of an edifice of more than local repute. On January 1, 1897, Mr. O. W. Norcross purchased the interest of his brother, and is now the sole owner. Among the structures erected by this firm are the following:

Allegheny County Court House and Jail, Pittsburg, Pa., \$2,500,000; Massachusetts State House Extension, \$2,000,000; Rhode Island State House, \$1,700,000; Exchange Building, Boston, \$1,600,000; Bloomingdale Insane Asylum, White Plains, N. Y., \$1,400,000; Tremont Building, Boston, \$1,200,000; Library Building, Columbia University, New York, \$1,000,000; Equitable Building, Baltimore, \$1,200,000; State Mutual Building, Worcester, \$900,000; Banigan Building, Providence, R. I., \$900,000; Marshall Field Building, Chicago, \$900,000; New York Life Insurance Company Building, Kansas City, \$850,000; New York Life Insurance Company Building, Omaha, \$750,000; Great Barrington, "Kelllogg Terrace," \$600,000; New England Building, Cleveland, \$700,000; City Hall, Worcester, Mass., \$600,000; Corcoran Gallery of Art, Washington, D. C., \$400,000; College for Teachers, New York City, \$409,000; Trinity Church, Boston, \$390,000; St. John's Episcopal Church, New York City, \$412,000; Schermerhorn Hall, Columbia University, \$450,000; Stack Building, Princeton University, \$500,000; Ames' Washington Street Building, Boston, \$625,000; Lawrenceville School, New Jersey, \$320,000; B. & A. R. R. Station, Springfield, Mass., \$420,000; Albany City Hall, Albany, N. Y., \$295,000. At Harvard University, Norcross Brothers completed the Agassiz Laboratory, Gymnasium, Law School, Sever Hall, Perkins Hall, Conant Hall and the Fogg Art Museum.

Peter Schaeffler & Son.

The name Schaeffler has been connected with the better and more substantial class of building in New York for the past forty years. The original builder and founder of that name of the firm was Mr. Joseph Schaeffler, who started as a mason builder and general contractor in 1860. He afterwards admitted his son, and the firm's name was changed to Joseph Schaeffler & Son in 1881. Mr. Peter Schaeffler started for himself in 1874, and in 1891 Mr. Joseph Schaeffler retired. After 1891 Peter Schaeffler and Joseph Schaeffler formed a co-partnership under the name of P. and J. Schaeffler. On July 1, 1897, Mr. Joseph Schaeffler retired from active business, and the management of the firm's future career fell to Mr. Peter Schaeffler, who has since taken his son, Mr. Frank C. Schaeffler, into the business.

The office of the firm of Peter Schaeffler & Son is now located in No. 75 Bible House.

In reviewing the class of work which this building firm, whether

under the name of its founder or under its present name, has obtained and brought to a successful completion, one will observe that there is nothing of the cheap, temporary class of work which for many years has been the bugbear of the investor. The Shaefflers, be it said to their credit, have built thoroughly, substantially and with a view to permanency. They never entered into a ruinous competition with builders who, in order to secure contracts, sacrificed everything to cheapness. Messrs. Schaefflers figure on using the best material; brick dealers are aware of the fact that none but the best qualities can be sold them; cement, lime and lumber dealers know from experience what to send the firm, Peter Schaeffler & Son, for the reputation of the firm for the best class of building is widespread. During its connection with the New York trade, the firm has built many churches, factories, hospitals, and breweries. A partial list of these which we give cover the more important of their contracts. St. Nicholas Church, East 2d street; St. Joseph Church, East 87th street; Pitt Street Church; Holy Redeemer School, East 3d street; School St. Mary Magdalen, West 49th street; Convent of St. Dominic, East 2d street; New York Mothers' Home, East 86th street; St. Joseph Institute for Improved Instruction of Deaf and Dumb Mutes, Throgg's Neck; St. Joseph's Orphan Asylum, foot 89th street, near Avenue A; wall paper factory in 71st street; two large silk mills and four wholesale cigar factories. In breweries there are the breweries of the John Eichler Brewing Company; Peter Doelger, J. L. F. Kuntz Brewing Company, Henry Zeltner, Henry Clausen & Co. The firm also built the Florida Flats, the Cameron apartment house; warehouses for Sonn Bros., Maurice S. Herman, and Ludwig Baumann, on 36th street, near Eighth avenue. It is no high estimate when it is stated that the Shaefflers built in the 17th, 11th and 10th wards over one hundred and twenty-five tenement houses.

James Baker Smith.

The name of James Baker Smith, builder, has been intimately connected with the New York building industry for upwards of half a century. During that time there have been probably greater changes in the craft than in any other corresponding length of time in its history. Mr. Smith, however, has clearly established his capability of maintaining himself in the front rank of builders at a period when changes and constant innovations in his trade were the order of the day. He has plainly established this fact whenever he enters into competition with other builders by successfully securing the contract.

Mr. Smith has been successful because he has been thorough in all that the word implies. He not only learned his trade at a time when to be thorough was an object to which special attention was paid, but he learned that to be successful one must keep abreast of the times, if not a little in advance of them.

Mr. Smith was twenty-one years of age when he entered into partnership with the firm under whom he had served his apprenticeship. It was a substantial firm—one of the best in the city—and it may be mentioned that Mr. Smith in his capacity of an active member of the firm built the dry goods store of H. B. Claflin & Co., and one for Bowen & McNamee. He also built the dwellings for Judge Edwards Pierrepont, Dr. Peckham, Thomas H. Faile, Wm. F. Carey, W. H. Butterworth, Griffith Thomas and Dr. Delafield, all of which are located on Fifth avenue.

In 1860, Mr. Smith received the contract for building a large hotel at Nassau, which was being erected by the Colonial government there. He had decided to remain for the winter only, but he found the opportunities for a builder of the better grade were so numerous and the field so large that he remained six years in the Bahamas. During that time he built light-houses, the prison, docks and bulkheads for the government; and residences, theatres, warehouses, hotels for the people.

He returned to New York and again entered the field of building. He soon established a reputation for himself, which he has since maintained, as one of New York's most prominent builders. Probably it was the manner in which the contract of the Equitable Life Assurance Building was carried out that first gave Mr. Smith his present high rating. He has built many of New York's largest and most important buildings. Among these are: Havemeyer Hall and Engineering Building of Columbia University, American Lithographic Co.'s Building, American Museum of Natural History, Western Union Telegraph Co.'s buildings at Broadway and Dey street, Fifth avenue and 23d street and Broad street; Consolidated Stock and Petroleum Exchange, Morse Building, American Safe Deposit Co.'s Building, Welles Building, Freundschaft Club, New York Athletic Club, 55th street; New York Hospital, Roosevelt Hospital, N. Y. C. & H. R. R. Co.'s Storage Building and many others throughout the city.

The Louis Weber Building Co.

Louis Weber was born in Germany, but has spent the greater part of his life in New York City. He entered upon his professional career during the year 1867, 31 years ago. He had a very thorough architectural and engineering knowledge, having been educated in one of the leading polytechnic institutes of Europe, of which he is a graduate. He left the university and came to America, where his business life in this city began under the most auspicious circumstances. Through personal energy and integrity he rapidly advanced into the foremost ranks of mason builders. During his long connection with the building interests, he has been equally successful in all branches of the trade, enjoying the implicit confidence of all his patrons.

Among the many buildings he has erected the following are a

few of the more prominent: American Tract Society Building, Havemeyer Building, Staats-Zeitung Building and University buildings, Annex to Deaf Mute Institute, Edison Electric Illuminating Co.'s buildings on Elm street, New York, and on Pearl street, Brooklyn; the Union Railroad's electric power houses, the gas tanks for the Consolidated Gas Co., New York and Brooklyn, and gas works of Elizabeth, N. J.; Grammar School, No. 77, Harlem Depot of the N. Y. C. & H. R. R. R., Hebrew Orphan Asylum, and the New York terminus of the New York and Brooklyn Bridge; Ballantine's, Newark; Beadleston & Woerz's, Chas. Clausen's, Hy. Clausen's, Consumers', Geo. Ehret's, India Wharf, (Bklyn), Jacob Ruppert's, F. & M. Schaeffer's and David Yuengling's breweries; Neidlinger & Sons' and Chas. A. Stadler's malt houses; De La Vergne Refrigerating Machine Co.'s, New York Hygeia Ice Co.'s and Jacob Ruppert's ice manufacturing plants; A. & S. Blumenthal's, Wm. Zinsser & Co.'s (58th street and 10th avenue), August Zinsser's (Hastings-on-Hudson), and Sohmer's piano factories; also the Astoria Silk Works, Boettger & Hinze's Silk Dyeing and Finishing Works, and the warehouses of Johann Hoff Malt Extract Co. (Newark), William Steinway (Astoria) and Wm. Zinsser & Co.; Broadway, Empire, Irving Place theatres, rebuilding the Metropolitan and Grand opera houses, Koster & Bial's 23d street, and Theiss' music halls, and the Lexington Opera House; Dr. Frederick Lange's Private Surgical Hospital; residences of Geo. Ehret, Cord Meyer, Jacob Ruppert, Wm. Zinsser, also Nos. 962 and 963 5th avenue; the Bolkenhayn, Hol-yoke and Webér apartment houses; Jas. McCreery, 23d street; Bloomingdale Bros., 59th street; Mahler, Fr. Hollander & Co., 125th street, buildings; and Stern Brothers' stable.

Mr. Louis Weber is a member of the Building Trades Club, Mason Builders' Association and the Mechanics' and Traders' Exchange. It will be seen from the above list of buildings Mr. Weber ranks as a legitimate builder among the foremost in the metropolitan district. The address of The Louis Weber Building Co. is No. 427 East 61st street.

Chas. T. Wills.

Mr. Chas. T. Wills comes naturally by his taste for building, as his father was a builder of considerable prominence. After finishing his education, at the age of eighteen, Mr. Wills came to New York. Here he was apprenticed to Mr. John T. Conover to learn the trade of brick-laying. He showed such intelligence and aptitude and made such excellent progress that, while still an apprentice, he was given the responsible position of foreman, and had the superintendence of important works. After holding this position for a number of years, he next went into partnership with Mr. George Sinclair. This partnership continued for five years. Then the firm was dissolved. Since that time Mr. Wills has carried on the business by himself.

Mr. Wills has built a number of the largest and best-known buildings in this city. A few of them are the American Surety Building, corner of Pine street and Broadway; the Johnston Building, Broad street, Exchange place and New street; the Gillender Building, Wall and Nassau streets; the Bank of Commerce Building, Cedar and Nassau streets; New York Life Building, Leonard street and Broadway, and the Presbyterian Building, No. 156 Fifth avenue. A list of the buildings erected by Mr. Wills a few years ago, included many of the most prominent buildings of the day, and shows him to have been one of the leading builders at that time. This list includes the American Bank Note Company's Building; the Montauk Club House, in Brooklyn; the New Jersey Central Railroad Depot, in Jersey City; the same company's building, Liberty and West streets, this city; the Judson Memorial Church and Buildings, on Washington square; "The Yosemite," 62nd street and 4th avenue; the Pierce Building, Franklin and Hudson streets; All Angels' Church; the Brooklyn Tabernacle, in Brooklyn; the Mail and Express Building, Broadway, at Fulton street, and the residence of the late Gen. U. S. Grant. Mr. Wills has just completed the new Delmonico Building, corner of 44th street and 5th avenue, and is engaged at present in the construction of the University Club, on the old site of St. Luke's Hospital. It is impossible to mention, except in brief, what Mr. Wills has done in connection with the building trade aside from the actual work of construction. He played a prominent part in the great nine-hour strike of 1889. He was also a member of the Building Committee appointed by the New York Athletic Club in connection with the building of their new club-house. Mr. Wills' office is in the Presbyterian Building, corner of 20th street and 5th avenue.

John T. Brady.

In New York, the civic authorities are widely reputed to be extremely zealous of the interests of citizens with regard to all classes of buildings erected and the materials used. This tendency to place strictures on builders has brought the standard of construction in New York to a high degree of efficiency, and as a result the successful New York builder has no superior in this or in any other continent. In a prominent position in the list of successful local builders Mr. John T. Brady, the well-known mason builder and general contractor, undoubtedly belongs. For a quarter of a century he has been identified with the building industry, and during that time he has acquired a reputation for reliable work that cannot be surpassed. Beginning when a boy he learned masonry in all its branches, and afterwards became proficient as a journeyman bricklayer and mason. When he first opened an office he made a specialty of mason work in residences; he has been most successful in that branch, having erected more than 250 dwellings of the better class in different parts of the city. Probably Mr. Brady's greatest work, however, and one that will make his name one not

to be soon forgotten is the completion of Grant's Tomb, overlooking the Hudson. Among his other contracts are Nos. 35, 37 and 39 Bond street, and the Lotus Club, 46th street and 5th avenue. Mr. Brady also makes a specialty of converting old style buildings into the more modern type. His office is at No. 22 East 42d street.

H. W. Boreham.

The building trade in New York embraces many classes of builders, but there is none in which the field, limited as it may be, is so filled with budding, future contractors as that of the overhauling or alteration branch. It appears to be the first step to be taken in their career, and their anxiety to make a success of it leads to an excessive lowering of prices and a consequent deterioration in the work done. As we have stated, the field is greatly overrun, but as is the case in all industries, crafts or professions, the thorough and expert succeed no matter to what degree the adverse conditions may exist. The subject of our sketch, Mr. H. W. Boreham, whose office is located in No. 1559 Broadway, is one of those who have attained the top notch in the jobbing, overhauling, and repairing branch of the building industry in New York. He is a carpenter builder of the kind produced years ago, when learning the trade of carpenter consisted of something vastly different from that into which it has since degenerated. He has built and superintended the erection of buildings in and around New York for the past forty years. Five years ago he decided to become a carpenter-jobber and alterer. His success is due no doubt to his thorough knowledge of his trade and the class of work which he completed. Mr. Boreham finds now that contracts seek him by reason of his reputation as a reliable workman. There is no question but that he will enter the higher field and will meet with the same success.

Andrew Brose.

In the large field of enterprise which New York affords in the building line, it can be truthfully said that none have succeeded unless thoroughly well qualified by practical experience and native ability. Among the comparative few who are recognized as successful, is Andrew Brose, No. 1 Madison avenue. Mr. Brose obtained practical experience in mason building in all the different branches, rising from the lowest rank to that of mason employer. He commenced business in 1887 for himself. He possessed an extensive experience and he had native ability. He applied himself energetically, with most favorable results. He is now in a position to undertake the contract for erecting any kind of building. Some of Mr. Brose's recent contracts have been: the erection of the Kellar Building, a nine-story building in No. 722 Broadway; Cammeyer Building, Carmine and Bleecker streets; Bohemian National Hall, Nos. 321-325 East 73d street; German Lutheran Church at 22d

street, near Eighth avenue; Dutch Reformed Church at 68th street, near First avenue; a large Odd Fellows' Home in Westchester. Mr. Brose is a member of the Mason Builders' Association, and has long been associated with several large companies who have helped the building industry in New York, particularly in the more populated districts.

Cosgrove Bros.

On August 2d, 1897, Cosgrove Bros. succeeded Thos. J. Brennan, with whom they had been connected for a number of years. It was to their ability and enterprise that was due, in no small measure, the success of the old firm. Consequently, when they succeeded to the business with which they had been intimately connected for so long a time, it was by no means an experiment, but the continuation of a long-established and well-known firm. The experience which they received, each in a different branch of the trade, has already proved of incalculable value to them in their new undertaking.

The firm of Purcell & Brennan was founded about twenty-eight years ago. They were succeeded by M. Brennan, who in turn was succeeded by M. Brennan & Co. This firm was followed by Thos. J. Brennan.

Cosgrove Bros. do all kinds of free-stone work. They have every facility which the latest and most improved machinery can give for doing the very highest grade of both plain and ornamental work. The work which they are engaged upon at present includes a large office building at the corner of Bleecker and Elm streets, George Keister, architect; a dwelling at 40 West 58th street, for John R. Thomas, the architect; also a number of contracts for Gillespie Bros., the builders, and Richard Deeves & Son, builders.

E. F. Dodson & Company.

The main office of E. F. Dodson & Co., one of the leading firms of general contractors and builders, has been located in New York for the past two years. Previous to the establishment of their New York office, they had done a large building business in the West, principally in Illinois, Minnesota and Wisconsin. The senior member of the firm, Mr. Emory F. Dodson, is a thoroughly practical contractor and builder in all branches. In Chicago and the West, where he is widely and favorably known, he was successful in securing a large part of the best class of work to be done. It was in Minneapolis, Minn., that the contract for the first steel constructed fire-proof building ever erected in that State was awarded to and entrusted to Mr. Dodson, who carried it through to a successful completion. It may be remarked that at the time of its construction there had been no buildings of that character erected in New York City.

Mr. Dodson built the first fire-proof building in Eau Claire, Wis., and also the first one in West Superior, Wis., for which Mr. Charles



"THE ROYALTON."
(1897.)

47 & 49 West 43d Street.

Rossiter & Wright, Architects.
E. F. Dodson & Co., Contractors.

C. Haight, No. 111 Broadway, was the architect. E. F. Dodson & Co. located in New York, being attracted East by the large field in fire-proof and structural iron-work, in which they have been so successful. The firm have erected a number of high-class buildings in Georgia, Alabama, Massachusetts and New York. In New York City one of their representative contracts is that of the Royalton Hotel on 43d and 44th streets, between Fifth and Sixth avenues. At the present time the firm are building a steel constructed fire-proof hotel in Pittsfield, Mass.

The offices of E. F. Dodson & Co. are at No. 1133 Broadway, New York Rooms 817 and 819 St. James Building.

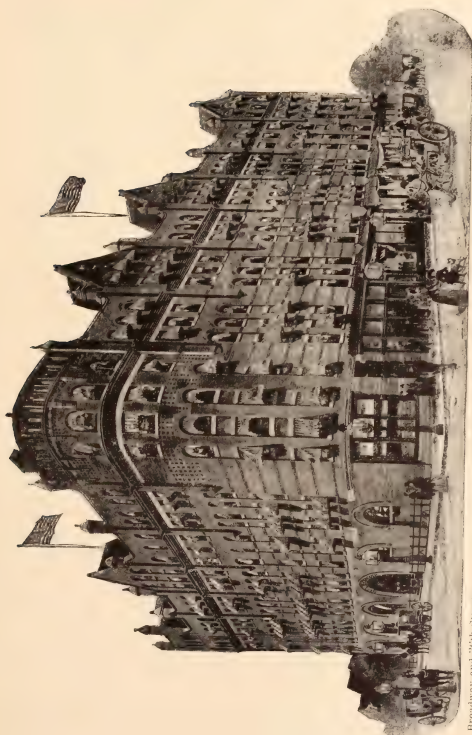
T. P. Galligan & Son.

The business now carried on by T. P. Galligan & Son was established in 1858 by Mr. T. P. Galligan, Sr. It has grown from the modest circumstances surrounding its commencement to a business of great proportions, the counterpart of which there is not to be found in America. The business has resolved itself into different branches as it grew. The important divisions, however, are the excavating, shoring, the wrecking department, and the house moving department. In the first branch of the business, the firm is probably the most reputable and reliable firm in that class of work in the city. They have made the necessary excavations for such large buildings as the Empire Building, corner Broadway and Rector street, the Manhattan Life Building, No. 66 Broadway; the Syndicate Building, Park row; the new Astoria Hotel, in which was the largest excavating work ever done in New York; the New York Life Insurance Building; the Central Bank Building; the Commercial Buildings between Waverley place and Washington place on Broadway, and in fact all the important work of this nature has been entrusted to this firm. They possess every facility for rapid work; 80 well groomed heavy draught horses are kept constantly at work, and their wagons are models of perfection; the stables and plants cover 20 city lots, and at a moment's notice 50 to 75 men can be turned out as a wrecking gang. The address is 528 East 17th street.

Hugh Getty.

Prominent in the ranks of mason builders, Mr. Hugh Getty is equally as well known in New York building circles as a master carpenter. It is this fact, that Mr. Getty is able to combine masonry and carpenter work under his personal supervision, which no doubt accounts for his substantial success as a builder. He is perfectly familiar with details of both crafts, and now, as a general contractor, he finds it is not necessary for him to sublet the masonry or the carpenter work, which is so frequently done.

Mr. Getty has been in the business of general contracting in New York for twenty years. Beginning in a small way, he made a spe-



Broadway and 36th Street.

THE HOTEL MARLBOROUGH.
(1891.)

Addison Hutton, Architect.
Hugh Getty, Builder.

cialty of general alterations and small residential contracts. His thorough work, combined with the fact that he never permitted any delay in his work, soon acquired for him a reputation that many older firms had not obtained. He had been in business only three years when he secured the large contract for the erection of the Hotel Vendome, at 41st street and Broadway. The successful completion of this work gave Mr. Getty a rating in local building circles which placed him in the front ranks. Since that time he has finished such buildings as the Hotel Marlborough; the \$1,000,000 warehouse of the heaviest fireproof construction, at Washington and Charlton streets; the Castree Building; the Dennison Building; James T. Pyle's residence, 53d street and Fifth avenue, besides a large number of other residences in the city and country. The address of his factory is 276-280 Ninth avenue, and the office, 274 Ninth avenue.

Gillespie Brothers.

Prominent among the better class of mason builders and general contractors in the Metropolitan District, few are more favorably known than the firm of Messrs. Gillespie Brothers, the members of which are Mr. Michael H. Gillespie and his brothers, Mr. Thomas A. Gillespie. Both partners are thoroughly practical men, having served an apprenticeship with their father, who was a well-known New York contractor. In 1880, Mr. M. H. Gillespie commenced business on his own account, and four years thereafter his success justified forming a partnership with his young brother, which connection exists at the present time. Too much space would be required to mention even a small part of the numerous business properties, apartment houses, private dwellings; warehouses, etc., which have become "things of beauty" under the skillful handiwork of this firm, many of which have been of full fire-proof construction, and from five to fifteen stories in height. A complete knowledge of the details of the trade, together with the executive ability of the senior partner, and the untiring application of both members of the firm, fully justifies the measure of success they now enjoy. The offices of Gillespie Brothers are located at No. 134 West 23d street, near Sixth avenue, also at No. 1172 Fifth avenue, corner 98th street, New York City.

The C. Graham & Sons Company.

In referring to New York's high-class builders the list would be incomplete if the name of The C. Graham & Sons Company, of Nos. 305, 307 and 309 East 43d street, was omitted. Charles Graham established the business in the year 1852. He conducted a stair-building and interior house trim business for a number of years, his sons John and Thomas being in the meantime admitted into the firm. They did a large business in this line and became widely known. In the year 1880 the firm erected its present fac-

tory and entered extensively in the building business, and carried same on until the year 1888, when the firm was incorporated under the laws of the State of New York, with Mr. Charles Graham president, and his two sons, John and Thomas, actively engaged in the concern. In the year 1881 Mr. John Graham became president of the company, a position which he has since maintained, and he is now the only member of the original firm connected with the company, his father, Charles Graham, being dead for some years, and his brother, Thomas, having sold out all his interest.

It is hardly necessary to refer to the company's reputation, but we will simply mention the fact that it has built some of the highest class private residences in New York; also the Holland House, Fifth avenue and 30th street; the addition to the Buckingham Hotel on 49th street, and a number of other buildings too numerous to mention in our limited space. It is now completing the Church of Divine Paternity, of which Mr. William A. Potter is the architect, and the Knox Memorial Church, of which Mr. Edgar K. Bourne is the architect.

J. C. Hoe's Sons.

This building firm was established in 1817 by the grandfather of the present members of the firm. During the lapse of years the name has been preserved, although during its career there have been four changes in the personnel of the firm. In 1830 William Hoe, the founder, was succeeded by J. C. Hoe; in 1880, after fifty years, J. C. Hoe & Co. took charge, and in 1881 A. C. Hoe & Co. succeeded; the last change was made in 1887, when the present members, George E. Hoe and his brother, William A. Hoe, took the management of this well-established business. The firm is a carpenter building one and the style of work done, as is evident from the structures completed, is of the best class. Their facilities are excellent. The firm owns and operates a steam wood working factory at Nos. 52, 54 and 56 Gansevoort street, while a well stocked lumber yard is located in No. 831 Greenwich street.

The firm possesses a reputation for integrity and honorable work which can be gained only by a long and successful connection with the trade. As an example of some of the more important contracts completed by this firm there are such buildings as the College of Physicians and Surgeons, the Sloane Maternity Hospital and the W. J. Syms Operating Clinic, all of which are situated in West 59th street. The firm also completed the carpenter work of Tiffany's store at 15th street and Union Square, Tiffany's house at 72nd street and Madison avenue, Merchants' and Manhattan Co.'s Bank Building in Nos. 42 and 44 Wall street, alterations for A. Young's residence in No. 15 West 56th street, and a similar contract in M. C. D. Borden's residence in Nos. 25 and 27 West 56th street.

T. J. McLaughlin.

Mr. Thomas J. McLaughlin, of No. 167 East 60th street, is a mason builder and general contractor. He has been prominently connected with New York building trade for the past twenty years, and was associated with his father in the same line. Mr. McLaughlin has been a thorough and careful builder, giving minute attention to detail with the result that his career has been marked with uniform success. At the present time he has divided his business under two heads, both of which are, however, under his close supervision. Mr. McLaughlin entered the projective building market some years ago, and he has erected some handsome apartment houses in desirable residential localities. These structures are located in the upper part of the city, and are equipped with all modern improvements. One of the finest of his houses is the Palacio, a seven-story stone and brick apartment house located at the corner of 65th street and Park avenue. The other portion of the business is carried on under the name of T. J. McLaughlin Co. Under its management the contracting of mason work, general overhauling, painting and decorating, and building operations in general are conducted. Mr. Charles A. Steuerwald, who is associated with Mr. McLaughlin as the manager of this department, is a practical and efficient man, as the work done under his management testifies. The handsome residence of Isaac Rosenwald, of No. 44 East 60th street, in which the cost of carving amounted to \$1,500, was completed by the T. J. McLaughlin Co.

Quincy & Crawford.

The mason and contracting trade of New York embraces many prominent and reliable builders, but there are few in fact who possess a more substantial reputation as a mason and general contracting firm than does Quincy & Crawford, of No. 125 West 42d street. The senior member of the firm, Mr. Samuel Quincy, has been intimately connected with New York building operations for more than thirty years. His partner, Mr. William Crawford, is a college bred young man, possessing both an extensive theoretical and technical knowledge and practical experience, having worked as a journeyman mason and served his apprenticeship at the trade. The firm do not make any particular line of building their specialty, but have completed some excellent examples of stone and mason work. Their reputation for thorough work is borne out by the class of work which they have completed. During the career of the senior member of the firm, Mr. Quincy, he has built in the neighborhood of 300 private houses on the West Side, all of which were completed on a legitimate basis for customers. Grace M. E. Church in 104th street, between Amsterdam avenue and Columbus avenue, a handsome edifice, was completed since the present firm was established four years ago. The Mineola stables in 84th street and Boule-



GRACE M. E. CHURCH.

North side 104th Street, bet. Amsterdam and Columbus Avenues.
Cady, Berg & See, Architects. (1895.) Quincy & Crawford, Builders.

yard, considered the best stables on the West Side, was also built by this firm; another of their works is the artistic bridge over Park Lake in Central Park, near 59th street and Fifth avenue. For Clinton & Russell they completed alterations in No. 148 West 14th street; they also built Miss Pauline Hall's handsome residence in West 71st street, and P. Nathan's house in No. 35 West 86th street. The firm has also completed numerous warehouses and mercantile buildings in different parts of the city.

Murdo Tolmie.

The building contracting firm of Murdo Tolmie, of No. 245 West 12th street, is the successor to the old and well-known firm of Wood & Tolmie, of which Mr. M. Tolmie, of the present firm, was a member. The new firm came into existence two years ago, on the death of Mr. Wood, when the construction of a large school house was on the point of completion. Mr. Tolmie, the surviving member, assumed charge of the affairs of the firm, and has conducted its business under his own management since that time. He has infused much of his energy and aggressiveness into the business, and it is needless to state that the measure of success he has met with has far exceeded that attending the firm's efforts before.

He is a general contractor, but has made a specialty of carpentry work. The firm has completed several important jobs, among which are Grammar School No. 94, the carpentry work of the Model Tenements and the raising of the roof of the Normal College. This was a work of considerable importance, and was accomplished without a single hitch.

Mr. Tolmie is a practical member of the building craft, and is thoroughly conversant with its details. In the metropolitan building arena, particularly, where competition is so keen, the demands made upon knowledge and experience of a builder are so pronounced that he must conform to the standard required or else be relegated to the rear. The successful New York builder, however, such as, we are pleased to state, has been the status of Mr. Tolmie, can operate and compete successfully anywhere in the country, for he has been able to merit success under severer conditions of competition than prevail elsewhere. It may be added that the contracting firm of Murdo Tolmie has completed a large amount of public and municipal work.

Peter Tostevín's Sons.

The name of Tostevin has been identified with New York building operations for the past forty years. The founder of the firm, Mr. Peter Tostevin, established himself as a builder in 1850, and on his death in 1880 his two sons, Mr. Henry M. Tostevin and Mr. Peter L. P. Tostevin succeeded to the business, and have carried on a mason building and general contracting trade. The work done by the Tostevin Brothers has always been known among the legitimate

trade as mason work of the best class, in which no element of cheapness ever entered. Mr. Henry M. Tostevin is President of the Building Trades' Club, which numbers amongst its members the best class of builders in the city. They are also members of the Mason and Builders' Association and the Mechanic and Traders' Exchange.

As examples of the more important contracts completed by the Tostevin Brothers, we give a partial list comprising the large Hoffman House annex, Bowery Branch Y. M. C. A., the Arnheim store on 9th street and Broadway, the seven-story mercantile building at Grand and Elm streets; Baudouine Building, Broadway and 28th streets; storage warehouse for Third Avenue Cable Road, at 129th street, between Third avenue and Lexington avenue; office building at No. 143-145 Fifth avenue, besides warehouses and grain repositories in different parts of the city. The firm's address is No. 1133 Broadway, St. James' Building.

John Acker.

The builder who superintends the erection of a structure and controls the mason, carpenter, glazier, and the many other departments of the building trade in that structure which he is completing for sale, must in truth have a minute knowledge of the building trade. Mr. John Acker, by reason of his long experience as a builder, justly lays claim to the possession of these qualifications. He has been a builder for the past twelve years, and his experience in trade dates beyond that period many years. He built largely in the suburban districts in the beginning of his career, and meeting with unqualified success, he came to New York City proper. Here he has also met with success, due, no doubt, to the high standard of workmanship displayed in all his structures. His greatest work is a handsome block of flats at 114th street and St. Nicholas avenue. His address is No. 528 East 71st street.

Jeremiah Altieri.

In the various branches of the building craft, there is the excavating department, which, while of minor importance, still requires executive ability, besides practical and wide experience. Mr. Jeremiah Altieri, whose yards and office are located in No. 434 East 109th street, is a master employer of laborers, who are experienced in this branch of the building trade. His contracts embrace various classes of work, from the simple cellar excavation to that of the larger and more pretentious jobs. The work completed by Mr. Altieri has been carried on with dispatch and rapidity which is greatly desired by the builder. In this way Mr. Altieri has acquired a wide reputation for rapid work. He is now engaged with buildings on 115th street, between Madison and Park avenues, and 80th street, between Park and Lexington avenues.

Bunn, Carey & Nase.

The enterprising firm of Bunn, Carey & Nase, of No. 1123 Broadway, is composed of C. H. Bunn, C. P. Carey and M. H. Nase, all of whom are comparatively young men and thoroughly experienced mason builders and general contractors. They have been successful in securing contracts, not only in New York, but in New Haven, Providence and Philadelphia. In New York they have established a reputation for honest work and work of such a quality that their future success as a building firm is a fixed quantity. During the past season they have completed several important alteration contracts on Fifth avenue. Another important contract completed by the firm is that of Mr. Frank Munsey's eight-story building in New London.

W. C. W. Childs.

Mr. Childs has had years of experience and is a thoroughly practical constructor, having been employed by other firms before he began business for himself, seven years ago. He is a member of the Mechanics' and Traders' Exchange, the Building Trades' Club and the Manufacturers' Association.

Prominent among the buildings completed by him lately are the ten-story fire-proof hotel, corner of 93d street and Madison avenue; the remodeling of the Harmonie Club Building on 42d street, the two-story addition to southeast corner Fulton and Nassau streets, Nos. 463-469 5th avenue, besides many other fire-proof structures and other buildings requiring heavy construction. Mr. Childs's office is at No. 1125 Broadway.

Robert Christie.

Robert Christie and William Dykes founded the firm of Christie & Dykes in 1867. After a successful career of over twenty years, in May, 1889, Mr. Dykes retired, and Mr. Christie decided to carry on the business under his own name. The office of Mr. Christie is at No. 122 West 29th street. The work done by him embraces nearly every kind of building. At Nos. 321-325 West 56th street he planned and built the Church of the Disciples of Christ. Some of the dwellings erected by him are Nos. 29 and 31 West 72d street, for Dr. C. F. Hoffman; on the northeast corner of 82d street and Riverside Drive, for Mrs. Ackerman; Nos. 6 and 8 West 126th street, for Mr. George Taylor and Mr. John Wilson; the office buildings of the Northern Assurance Co., at No. 38 Pine street, and the Manice Building, No. 46 Pine street, corner of William. He has built for Mr. D. L. Einstein stores at Nos. 93, 95, 97 and 99 Greene street, and twenty other store buildings in the warehouse district of New York. Mr. Christie has also completed many important contracts involving office and cabinet work.

T. Cockerill & Son.

The firm of T. Cockerill & Son has long been connected with the New York building trade. Thomas Cockerill, the founder of the firm, was a well known mason builder and general contractor a quarter of a century ago. Three years ago he died and his son, John F. Cockerill, who had been associated with him for some years, took charge of the business, but maintained the old name. The work completed by this firm has been throughout of a substantial class; it has completed many warehouses, factories, breweries, office and mercantile buildings. For some years past the firm has completed much public work, notably two additions to the Museum of Natural History, one of which is in course of completion, and a large number of public schools throughout the city. The firm's address is Nos. 550 and 552 West 41st street.

John Darragh.

The subject of this sketch, John Darragh, is probably better known among New York mason builders in connection with the late company of R. L. Darragh & Co., than as an individual contractor. The fact that Mr. John Darragh was connected with his brother's company in the twofold capacity of partner and superintendent, is well nigh sufficient evidence that he is in every respect a competent and reliable mason builder. He entered his brother's firm in 1886, and was actively engaged in the many important contracts completed by that company until its dissolution in 1891; another company was formed, of which Mr. Darragh was a member. In 1894, Mr. Darragh branched out for himself, and has since been in mason building and contracting trade for himself. His address is No. 1533 Broadway.

J. W. Doughty.

Mr. J. W. Doughty, of No. 11 Rector street, is a painter and decorator of wide and varied experience. He learned his trade and afterwards became connected with the firm of Mead & Taft, high-class wood workers, under whom he acquired a knowledge and familiarized himself with the best class of graining, painting and decorative work. It may be added that Mr. Doughty was for some years the superintendent painter of that firm of their work throughout the entire country. Seven years ago he entered the field himself, and has proven himself by the high grade of work done to be a competent workman. He has completed work for Bruce Price, James Brown Lord and other architects. Mr. Doughty has done a large amount of work for the American Express Company and the Western Union Telegraph Company.

Dowd & Maslen.

Among the well-known legitimate builders in the upper portion of New York is the firm of Dowd & Maslen, of No. 247 West 125th

street. Established in 1890 they have operated in the best class of mason and general contracts in the district lying between 59th street and 150th street on the West Side, although their operations were not wholly confined there. They have built the Majestic, the Westminster and Wellesley apartment houses, besides over 100 private houses of the better class. Both members of the firm, Michael J. Dowd and Richard R. Maslen, are practical and thorough masons.

Thomas Dwyer.

It was some thirteen years ago that Thomas Dwyer founded the firm which bears his name. His first office was in East Twelfth street. Almost from the first he made a specialty of public buildings, both municipal and state. Among the structures which he has erected in this city may be mentioned the public schools, Ninety-third street and Amsterdam avenue and One Hundred and Fifty-seventh street, near Courtlandt avenue; the Aquarium in Castle Garden; the engine house in West Sixty-eighth street; the boiler house of the Metropolitan Museum of Art; and the reception hospital at the foot of East Sixteenth street, foundations for high service works, High Bridge, N. Y. Besides these there are the State Military Building, Peekskill, N. Y.; the workhouse on Blackwell's Island, built for the State of New York, and Spring Point Ledge Light House, Portland Harbor, Me.

Recently Mr. Dwyer has devoted himself to a considerable extent to granite work. He owns and operates the famous granite quarries on Dix Island, Maine, which furnished the stone for the New York, Philadelphia and Charleston post-offices and the Treasury Building in Washington. It is stated on reliable authority that the United States government has already paid upwards of \$30,000,000 for granite from these quarries.

W. E. Elderd.

In recording the names of New York's carpenters and general contractors, one finds the name of W. E. Elderd, of No. 2281 Third avenue, corner of 124th street, standing high in the ranks of builders. Some of the contracts that he has already completed are the Postal Telegraph Building; the Third Avenue R. R. Depot, 129th and 130th streets and Lexington avenue; the Manhattanville R. R. Depot; the Seminary of St. Jerome; Edgemere Hotel, cottages, stable, bath houses, R. R. station, etc.; W. E. Uptegrove & Bros'. Building, 10th street and East River; St. Catherine's Church, 69th street and First avenue, and many others.

John W. Ferguson.

John W. Ferguson, whose office is located at No. 253 Broadway, is one of our large Eastern builders. Mr. Ferguson came to New York three years ago from Paterson, N. J., in which locality he was

widely known as an expert contractor. Since his coming to the metropolis he has entered with much success in the larger field, as is exemplified by the many successful contracts which he has completed. Some of the more important of these are the Kings County Electric Light and Power Company's plant in Brooklyn; New York Sugar Refinery's new plant at Long Island City; warehouse at Greenwich and Jane street. Mr. Ferguson has completed many other important contracts for New York investors, engineers and corporations.

John Glass & Son.

The well-known building firm, John Glass & Son, of No. 426 West 23d street, has been established since 1847, and Mr. John Glass, the founder of the firm, has built a large number of private dwellings, stores, mercantile buildings and apartments throughout the city. In the early days of his career he built to sell on a favorable market, as well as for a private investment. He has built an excellent class of houses, and always found, when he placed his buildings on the market a ready sale. The Adams Hotel on West street, and Glass Hall are among the prominent buildings erected by this firm. One of the contracts just completed by the firm was the private stables of Siegel, Cooper & Co., on West 17th street.

Edward Gridley.

Edward Gridley, carpenter and builder, has been associated with the New York building industry since 1846. He learned his trade in those days when a journeyman carpenter possessed, probably, a more thorough and extensive knowledge of his trade than what is now required of one. Mr. Gridley's reputation for thorough work is well known. He has been located at his present address, 240 West 27th street, for the past 28 years. During that time he has completed such contracts as the roofing of the City Hall and its cupola; school houses throughout the city, a large number of stations on the Third Avenue Elevated road, Vanderbilt's stables at 86th street and Madison avenue, and other large stables, Lester Studio Building, Madison avenue and 56th and 57th streets; Van Dyke Studio Building, Eighth avenue and 56th street, and other important buildings, besides innumerable residences.

Grissler & Son.

The firm of Grissler & Son was established in 1861, being then known as Grissler & Fausel. In 1884, Mr. Fausel retired, and in 1889 Mr. Grissler associated with himself as his partner, his son. They are unquestionably one of the best class of carpenter builders in the city, having all the facilities for manufacturing the materials used in their well equipped mill in Nos. 632-636 East 17th street. The firm has completed many large and important carpenter contracts. This firm is one of the few who have the reputation of manufacturing all their materials.

William A. Hankinson.

For a quarter of a century Mr. Wm. A. Hankinson, of No. 116 West Thirty-third street, has been building in this city private dwellings, churches, stores, warehouses and stables. In most instances he has taken the entire contract, while in some cases he has contracted for the carpenter work alone, for Mr. Hankinson is a thoroughly experienced carpenter, and is one of the most successful in that branch of the building industry in the city. Mr. Hankinson has made a specialty of repairs and alterations, particularly in private houses. He has a large number of customers for whose estates he has the entire charge of such work. In addition to the carpenter work, Mr. Hankinson is able to superintend all kinds of mechanical work for his clients.

Michael Hanlon.

Mr. Michael Hanlon, whose office is located at No. 122 Bowery, is a mason builder and general contractor. Mr. Hanlon is a practical member of the building craft, having learned his trade and graduated from his apprenticeship to the position of journeyman, and from that to his present position of general contractor. He has never entered the field of speculative building, but has always adhered to the legitimate trade. He has built a large number of mercantile buildings, stores and warehouses in the mercantile section of the city. His reputation as a builder rests on the class of work done, which is generally recognized as equal to that of any done in this city.

Hogenauer & Wesslau.

The building firm of Hogenauer & Wesslau has been prominently connected with the New York building industry since 1889. In that year Mr. A. Hogenauer and Mr. A. E. Wesslau, both practical builders, joined forces, and began to operate in the lower part of the city. Here they built improved tenements, but in 1892, finding the Harlem residential district a better field, they accordingly began to build there. The houses, flats and apartments completed by this firm are of the best class, and no element of cheapness was allowed to enter in their construction. As examples of the more important structures, we submit the following: private houses, Nos. 308 to 314 102d street, between West End avenue and Riverside Drive. The firm's address is No. 348 Willis av.

William Horne.

William Horne, carpenter and general contractor, of No. 245 West 26th street, has been connected with New York building trade for over six years. He served his apprenticeship and worked as a journeyman carpenter under some of the most prominent of our local builders. Afterwards his progressive tendencies prompted him to

open an office and enter the sphere of general contracting. In this he has been greatly successful, not only in securing contracts for stables, residences and apartment houses, but he has completed a large amount of municipal work. Mr. Horne has also bought and improved property which he then placed on the market.

The Hydraulic Construction Co.

The Hydraulic Construction Co., with a paid-up capital of \$250,000, was organized in 1888 and incorporated in 1895. The president and chief engineer is Mr. Wm. De H. Washington, who is well fitted for his position by reason of his thorough and extensive knowledge of hydraulics and general engineering. Besides building and maintaining municipal water-works, the company furnishes manufacturing establishments with plants for condensing purposes; in addition, they have built some of the largest caisson foundations for the most massive structures on land and for docks and lighthouses in water. We can give but few of the many successful contracts completed by them, among which are the water-works of Bayonne, N. J., and Lowell, Mass.; condensing plants for the Metropolitan Traction Co., and the Wallace Brewing Co.; Brooklyn Heights Cable Railway Co., Hyde Park, Walpole, New Utrecht; foundations for the Siegel-Cooper Building and the Northwest Point Royal Shoal Lighthouse; Johnson, Meyer-Jonnason, Spingler.

George G. Jackson.

Mr. George G. Jackson, of No. 208 West 17th street, is a carpenter and builder who has been connected with New York's building industry for twelve years. During that time Mr. Jackson has been engaged in the capacity of jobber for the Rhinelander estate and has paid special attention to jobbing, repairing and general alterations. Mr. Jackson has also built on a speculative basis in the West Side, between 14th street and 34th street. The class of buildings which he erected are generally a combination of business and residential structures. Two of his best examples are those of No. 311 West 15th street, and No. 314 West 16th street. He also erected No. 278 West 19th street and Nos. 168 and 170 Eighth avenue.

Amund Johnson.

Among the successful builders who have bought unimproved property and built thereon for sale stands Mr. Amund Johnson, whose office is now located in his handsome eight-story office building at No. 114 West 34th street. Mr. Johnson is a carpenter, builder and general contractor. In 1886, having previously perfected himself in metropolitan carpentry, he opened an office and entered the carpenter building trade, in which, by his thorough work and attention to detail he became eminently successful. He perceived the growing need for office buildings in the commercial portion of the city, and

he at once began to purchase suitable sites, on which he afterwards erected office buildings. Some of the more important are Nos. 9 and 11 East 16th street; Nos. 60-62 East 11th street; Nos. 50-52 West 3d street; Nos. 64-66 East 11th street, and No. 114 West 23d street.

Jones & O'Connor.

The firm of Jones & O'Connor, of No. 71 West 10th street, has been in existence two years, although both members of the firm have been identified with building operations in New York for many years. The firm takes general contracts and from the many clients for whom this firm has completed work we learn that it is held in the highest esteem. For some time past the firm has completed many school contracts and has been lately awarded the contract for Grammar School No. 44, on Hubert street, near Hudson, involving an expenditure of \$200,000. Jones & O'Connor have always adhered to legitimate building. They have established for themselves an excellent reputation for prompt and reliable work.

Thomas B. Leahy.

As general superintendent and clerk of the works in the construction of the Waldorf Hotel, the Manhattan Athletic Club and the Wilks Building, Broad and Wall streets, Mr. Thomas B. Leahy needs no introduction to the building trade of New York. Possessing an intimate knowledge of detail in each of the many branches of the building trades, Mr. Leahy entered the field of general contracting in 1892. Since that time he has made a specialty of alterations, in which line he has been eminently successful. He has secured a large portion of the more important alteration work of late, of which the following is representative: Shanleys, No. 1476 Broadway; St. Cloud Hotel; the row of houses on Broadway, Nos. 1497-1513. His address is No. 350 West 31st street.

Lewis & Jones.

There is no more reliable building firm in New York than the firm of Lewis & Jones, of No. 2 West 14th street. The history of the members of the firm is sufficient guarantee of their reputations as men of sterling worth. Mr. John J. Lewis has been intimately connected with the building trade of this city for 50 years, and his partner, Thomas Jones, for more than 25 years. During that time, individually they have completed many large contracts; together, since 1887, when the partnership was formed, they have finished such contracts as the Fulton Building, Fulton and Nassau streets; the office building for Kuhn, Loeb & Co., Pine street; the Coffee Exchange Building, rebuilding the Manhattan Bank, Wall street, besides a number of mercantile buildings on Beekman street and residences and stables throughout the city.

List & Lennon.

The firm of Alexander List and Thomas Lennon was formed in 1877. Both are practical mason builders and together form one of the most substantial contracting firms in New York. They have built many classes of structures in masonry from the simple residence to the elaborate heavy masonry of some of our most important buildings. They have many factories in the mercantile portion of the city below 14th street, and a large number of apartment houses and buildings. Their address is No. 301 West 59th street.

R. McArtney.

Mr. R. McArtney is a carpenter builder and contractor of over twenty years' experience. He makes a specialty of store and office work, as well as high class cabinet work. He has completed the carpenter work in such prominent buildings as Matthiessen & Wiechers' sugar refinery in Jersey City; Mt. Morris Church, 127th street and 5th avenue; Dr. Simpson's Tabernacle, at 43d street and Eighth avenue; Bracca Home, connected with the Tabernacle; Cyrus Clarke's residence at 90th street and Riverside Drive; Hollywood Flats, at No. 110 West 39th street; Van Tassel's grain elevator, 116th street and 3d avenue. Mr. McArtney also does a large amount of Postal Telegraph Company's work. His address is No. 66 West 58th street.

S. K. McGuire.

The reputation for reliable work held by Mr. S. K. McGuire, carpenter and builder, of No. 151 West 28th street, dates back nearly half a century. In 1856, the present business was established by Mr. McGuire, who had associated with himself a partner; together they carried on a successful business for 30 years. Subsequently the partnership was dissolved, and to Mr. McGuire fell the management of a well-established business. He has operated very largely in high class residences, located on Fifth avenue and Madison avenue. Among mercantile buildings and stores he has also been successful in securing contracts. A few of his more important jobs are: H. O'Neil & Co.'s Store, Sixth avenue; New York Cotton Exchange, Beaver street; Colonial Clubhouse, West 72d street; Christ Church, West 71st street; Grace M. E. Church, West 104th street, and New York Savings Bank, Eighth avenue and 14th street.

James McMillen.

Mr. James McMillen, of 1123 Broadway, succeeded in accomplishing what very few builders from outside New York have done. Coming to New York from the Middle West, Minneapolis and afterwards Duluth, where he ranked as one of the foremost carpenter builders and general contractors of those cities, he entered the metropolitan field in the spring of 1897 at a time when competition in the building

line was at its keenest for many years. He succeeded in capturing the entire contract of the Royaltan bachelor apartment hotel, a contract involving an expenditure of \$500,000, one of the best contracts awarded that year. He has managed its construction successfully, and it was ready on January 1, 1898. Mr. McMillen will probably continue as a general contractor in New York.

Harry McNally.

It would be an incomplete list of successful New York mason builders and general contractors in which the name of Mr. Harry McNally, of No. 287 Fourth avenue, did not appear. Mr. McNally has been connected with the building industry in this city for a number of years; he has built residences, stables, warehouses, mercantile buildings, and apartment houses in different parts of the city. For the past four or five years he has devoted his attention more particularly to municipal buildings, and in this he has been very successful. One may judge of his success in this line when it is learned that at the present time he has in course of construction four school houses, costing \$250,000 each, and over 500 men in his employ.

Mapes-Reeve Construction Co.

The Mapes-Reeve Construction Company is a corporation organized for the purpose of managing all kinds of structural work in the building line under one head. When a contract is taken the mason work, the carpenter work, the electrical work and all the departments of building is severally managed by the company as the head. The individual members have been connected with the New York building trade for over twenty years. The officers of the company are L. O. Reeve, pres.; F. H. Reeve, vice-pres. and treas.; D. H. Mapes, gen. mgr.; C. W. Reeve, sec. The company possess a reputation of doing none but high grade work, and it is well known they will turn away contracts and refuse such wherein cheapness is what the investor or architect seeks for. The company have built largely in the city, not only in large private residences, flats and apartment houses, but also schools and hospitals. The company's address is No. 150 Nassau street.

D. Mitchell.

Mr. D. Mitchell, of No. 155 East Forty-fourth street, has been connected with the New York building industry for twenty-five years. Mr. Mitchell is a carpenter builder, having during his career completed numberless subcontracts of varying size throughout the entire city. He has also secured the entire contract of some important mercantile buildings in the lower part of the city. But the greater part of Mr. Mitchell's building is done in connection with some of the estates of old Knickerbocker families. He has built,

repaired, altered and rebuilt for the Van Buren, Sloan, Clark, Stevens, Schermerhorn estates. The fact of Mr. Mitchell having been connected so long with those estates is ample proof of his thoroughness as a builder.

Charles E. Moore.

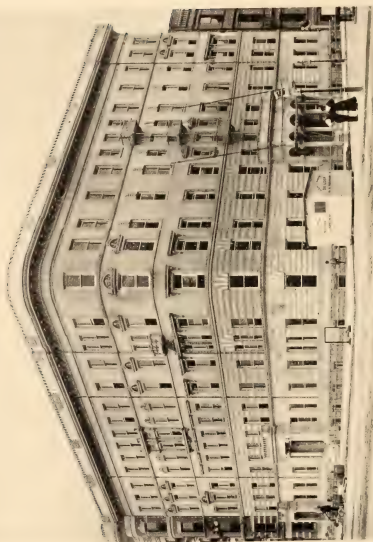
Mr. Charles E. Moore, of No. 81 Morningside avenue, is a representative builder in the upper districts of New York. He has made Harlem the scene of his operations, and during his connection with the building trade he has contributed in no slight measure to the general development and progress made in the residential and business thoroughfares above Central Park. Mr. Moore is a practical builder and is familiar with its many details, obtained only by experience. As an employer, he requires the utmost attention to detail from his workmen, believing that general excellence can only be obtained in such a manner. As an example of Mr. Moore's craftsmanship we submit the handsome apartment house at No. 81 Morningside avenue.

Murphy Bros.

The firm of Murphy Bros., whose office is located at No. 407 East 101st street, is composed of Sylvester A. Murphy and Edward S. Murphy. Both men are very well known in New York building trade circles, not only on account of their success as builders in mercantile and residential structures, but also in the large number of municipal and public buildings which they have erected. The firm was established in 1882, succeeding Sylvester Murphy, the father of the present members of the firm, who was a well-known mason builder. Among the many buildings erected by them are: police stations in different parts of the city, and public schools; the Erysipelas Pavilion, Isolated Pavilion, boiler house and laundry at Bellevue Hospital; handsome residences at Irvington and Larchmont; the Harlem Clubhouse, and the Musical Union; also a large number of warehouses and mercantile buildings.

Edwin Outwater.

Mr. Edwin Outwater, of No. 510 West 24th street, is a general contractor who combines mason and carpenter work under his supervision. He began as a carpenter contractor in 1881, and his operations met with such uniform success, that he entered the larger field of general contracting. He has always built for his customers in a legitimate competitive manner as a contractor. His chief success as a builder has been in large overhauling and alteration contracts, although he has built some prominent mercantile and office buildings. Among the jobs which he has just completed this year or are in course of completion, are two handsome residences in Nos. 6 and 8 East 76th street, for Mrs. M. T. Ludlow and Mr. Henry Parish; the



APARTMENT HOUSE.
Cor. 129th Street and Morningside Avenue.

Chas. E. Moore, Builder.

carpentry work of the Gill Building, Nos. 9, 11 and 13 Maiden Lane; a residence for Harvey Fish in No. 230 West 72d street; also for Mr. J. W. Roosevelt, in No. 110 East 31st street; the overhauling of No. 34 West 52d street for J. Oakley Rhinelander. One may glean from the above list the extent of Mr. Outwater's business since he commenced building.

James O'Toole.

Mr. James O'Toole, of No. 348 East 84th street, is one of New York's reliable mason builders and general contractors. He is a practical and experienced member of the craft, having been connected with it in the capacity of contractor for nearly twenty years. During that time he has erected numerous structures in different parts of the city, comprising warehouses, residences, stores, besides a large amount of public and other work. Probably his greatest contract is one which has been recently completed, that of a municipal building in Crotona Park, Borough of the Bronx. Mr. O'Toole has also completed some fine specimens of brickwork and masonry on Ward's and Blackwell's islands.

John Peirce.

Mr. John Peirce has a national reputation as a contractor. His operations have extended over the greater part of the United States, and include many magnificent structures, both public and private. His building enterprises have been highly successful, a circumstance due to the fact that everything is done under his personal direction. Mr. Peirce is President of the New York and Maine Granite Paving Block Co., at No. 5 Beekman street. He is also the largest stockholder of the Hallowell Granite Co., and many other concerns, including the Bodwell Granite Co., of Rockland, Me., the Mt. Waldo Granite Works, of Frankfort, Me., and the Stony Creek Co., of Stony Creek, Conn.

Pizer Bros.

The firm of Pizer Bros., of No. 249 West 133d street, composed of Leon Pizer and Jacob Pizer, has been connected with the New York building trade for ten years. The firm has built generally on a speculative basis, but the structures completed by them are above the ordinary type usually built for the market. In the beginning of its career, the firm built tenements in the lower section of the city, but attracted by the larger field in the upper section of the city, the firm commenced to build in the upper East Side. In all, Pizer Bros. have completed in the latter locality seven flats, but their best work is that which is just completed—the handsome apartment house extending the entire front of Lexington avenue, between 79th and 80th streets, and single flats on the adjoining corners.

The Ponce De Leon and the Brunswick are unquestionably the peer of any apartment house on Manhattan Island. Fitted with the best and most improved conveniences in plumbing, dumb waiters, refrigerators and gas ranges, they form model apartments. The stairs and halls are marble; the plumbing nickelled and exposed and beautifully designed. Mantels fitted with bevelled French mirrors add to general effect. Pizer Bros. expended \$400,000 on this handsome work, none of which sum consisted of a building loan. The architect, Mr. George Pelham, designed the structure, and the light, air and general comfort have been carefully thought of.

John G. Porter & Co.

Messrs. John G. Porter & Co., No. 36 Beekman street, are mason builders and general contractors of over 28 years' experience. During that time they have completed many structures of various kinds, ranging from the alteration and jobbing work to the more elaborate work of an office or mercantile building. In connection with their general contracting work, Messrs. Porter & Co. have been especially successful in constructing foundations for the heavy printing presses of the large New York dailies. Mr. Stephen Hatten, who is associated with Mr. Porter, has charge of this division of the work. Messrs. Porter & Co. have completed a very large alteration contract for Clinton & Russell in No. 35 Park avenue, costing about \$125,000. The firm is also retained by some of the best houses in the city for their jobbing and alteration work.

George W. Prodgers.

Mr. George W. Prodgers has been actively engaged in New York building since 1883. He is the successor of the firm of Smith & Prodgers, of which his father was the leading member. Mr. George W. Prodgers acquired his practical knowledge under his father's tutelage, and became proficient in the higher class of building. Mr. Prodgers has confined his operations to a substantial class of buildings in which there is no speculative nor cheap element entering. He has built a variety of structures in different parts of the city thoroughly excellent as to quality and thoroughness of work. His address is No. 1125 Broadway.

Paul B. Pugh & Co.

The controlling force in the firm of Paul B. Pugh & Co., of No. 476 West 145th street, is Mr. Paul B. Pugh himself. Mr. Pugh started in business as a carpenter contractor in 1890. In 1894, he formed a co-partnership with his two brothers, the firm taking its present name. Since its inception, the company has taken many first-class contracts and the manner in which they have been executed testifies to the high esteem with which this company is held in the building trade. Mr. Pugh is a painstaking and conscientious

employer, and the work completed by him is ample evidence of that fact. He has completed the trim work on the Hotel Endicott, Hotel Gerard, 10-story mercantile building at Howard street and Broadway, and another in Washington square. The company have completed trim work for a large number of private dwellings and have also built on their own account flats and private dwellings. Mr. Pugh has just completed the Albemarle apartment house, in No. 361 West 27th street. The firm will now enter the general contracting field.

Stephen M. Randall.

There are few builders who have been able to successfully compete in New York building circles, and in addition to carry on a most successful general contracting business in Brooklyn. Mr. Randall established his business in Brooklyn, where his main office is yet located, in the year 1868. He built very largely in Brooklyn, and finally came to New York. In the metropolitan field his energy and ability have found their scope, and it is only right to state that Mr. Randall has proved himself to be one of the most able and successful competitors in the arena of the building industry in this city. His New York office is located at 1125 Broadway.

Edward F. Roach.

In the ranks of mason builders and general contractors in New York there is none who possesses a more thorough knowledge of the details of the craft than does Mr. Edward F. Roach, of No. 218 West 21st street. Mr. Roach is a capable and well-known builder, and all the structures completed by him show by their general finish the master builder. He has completed various contracts from the alteration of a residence to the erection of stores, warehouses and other mercantile buildings. In the residential districts he has built chiefly on the West Side, although generally speaking his operations have extended over the entire city.

Peter Roberts.

One of the well known mason builders and general contractors in the lower section of the west side of the city is Mr. Peter Roberts, of No. 276 West Broadway. He has operated largely in the dry goods district for a large clientele of merchants, overhauling, repairing and making modern some of the old style stores. Mr. Roberts has also remodeled many residences in Fifth avenue and adjoining streets for mercantile purposes. But probably Mr. Roberts' greatest work has been in Montclair, N. J., where he converted a wide stretch of country property into a suburban park for a realty corporation. Mr. Roberts built at Irving Park, as the suburb is called, eight handsome dwellings costing \$15,000 each.

Thomas B. Rutan.

Mr. Thomas B. Rutan is one of Brooklyn's most prominent builders. The class of work which he has completed embraces some of the largest and most important ever completed in that city. Mr. Rutan has been a mason builder and general contractor since 1865; he had previous to that date entered the building trade, but on the war breaking out he enlisted. On his return he recommenced and during his career he has completed such structures as the Mechanics' Bank Building, Court and Montague streets, considered the best office building in Brooklyn; the Fourteenth Regiment Armory at 8th avenue and 14th street; Prospect Water Tower; Brooklyn City Railroad Building; St. Augustine Church; Thomas Jefferson Building; Phoenix Building; People's Bank Building; Central Presbyterian Church; National City Bank; Baldwin Building, and a large number of the high-class buildings. His address is Nos. 4 and 5 Court square, Brooklyn.

Clarence L. Smith.

The business carried on by Mr. Clarence L. Smith, of No. 1 Madison avenue, since 1885, is a large and extensive one. Mr. Smith is one of the large contractors doing excavating work, and in addition he manages a large building material supply business. In connection with those branches of the building trade, he operates one of the largest trucking departments in this city. Some of the largest excavating contracts completed by him are those of the Metropolitan Life Insurance Building, in No. 1 Madison avenue, Sherry's Hotel, 44th street and Fifth avenue, Havemeyer Stores, Prince and Broadway, Schermerhorn Building, 4th street and Broadway, the Church of St. Mary the Virgin, and the two wings of the Museum of Natural History. The building materials for the latter building and the Metropolitan Life Insurance Building were supplied by Mr. Smith.

Edward Smith & Co.

Among the well-known carpenter jobbers doing a high class of work in that branch of the building trade is Edward Smith & Co., of No. 46 Ann street, and No. 116 West 39th street. The business was established in 1860 by Mr. Smith, but since the formation of the company Messrs. Thos. J. Thompson, Valentine Lynch and William F. Birmingham have been admitted as partners. The company possesses a large clientele for whom carpentry jobbing has been done for many years. Store and office fitting and interior decoration work are specialties in which Edward Smith & Co. unquestionably excels. Among the concerns for which the company does work are the Postal Telegraph and Commerce Cable companies.

G. F. Tausig.

Among the high-class, reputable builders and general contractors, in New York, is the well-established firm of G. F. Tausig, of No. 256 West 28th street and 257 West 27th street. Mr. Tausig has been connected with the building industry for sixteen years, and previous to that acted in the capacity of foreman for New York's leading builder for five years. Mr. Tausig is one of our best carpenter and cabinet workers, having a wide experience in both branches. As examples of his capacity as a builder we name the large factory at 146th street and Railroad avenue, and the fine cabinet work in the residence of Dr. H. Holbrook Curtis, of which Mr. Tausig completed the entire contract. He has completed the cabinet and carpenter work of the two Western Electric buildings, at Bethune and West streets, and the New York Eye and Ear Infirmary. The carpentry work of the northeast corner of Broadway and Eighth street, an eleven-story building, and of many other mercantile buildings has been completed by him.

Terry & Tench Construction Co.

The skeleton framework of some of our large office and public buildings now being erected in all our larger American cities requires a technical engineering knowledge, together with a practical experience in structural iron work. Among the best known and probably first among the largest of the Western bridge constructors who were attracted to the center of structural iron work in the East is the now highly reputable firm of Terry & Tench Construction Co., of No. 1945 Seventh avenue. Coming to New York from Oregon in the spring of 1895 they have succeeded in establishing a reputation for reliable and rapid work that is simply wonderful considering the short time the firm has been connected with New York building circles. Among the buildings constructed and supplied by this firm are the Mills House No. 1, Central National Bank, Cushman Building, Grand Central Station, Sherry's new building, 44th street and Fifth avenue, and the Hudson Building.

Henry Turner.

Mr. Henry Turner, whose office is located at No. 113 West 96th street, is a representative New York contractor, whose structures testify to his ability as a builder. He is thoroughly familiar with all branches of the building trade, and it is his attention to detail and high class workmanship required of his employees that have brought about in all the buildings completed by Mr. Turner a high standard of excellence. He has built to a great extent on the upper West Side of New York, although his operations have not been confined there exclusively. He is a practical member of the craft and is recognized as one of the most careful and thorough builders. Mr. Turner exercises a personal supervision over his work with the result that it is all that could be desired.

C. H. Van Aken.

While the New York building industry embraces many particular ramifications, there is no branch in which sound judgment and wide experience is so necessary to attain success as in that branch in which a contractor figures on a job where there is a thorough overhauling or repairing to be done. Mr. C. H. Van Aken, of No. 148 West 4th street, while not devoting his attention wholly to repairing and overhauling, is one of the most successful and reliable contractors in that line of work in the city. He is a mason builder, and previous to his entry into the general contracting field in the city served as journeyman, and for many years acted as superintendent to some well-known builders.

E. Van Houten.

The list of New York's mason builders and general contractors comprise many able and experienced men. The name of Erskine Van Houten, of No. 1181 Third avenue, comes prominent in the list, for Mr. Van Houten is one of New York's most reliable builders in the legitimate trade. He has been connected with building matters for many years, during which time he has built various structures and completed extensive alterations in different parts of the city. While not confining his operations to the upper East Side Mr. Van Houten has built in that locality to the greatest extent. He is a practical builder, and understands the craft thoroughly.

H. H. Vought & Co.

The building firm of H. H. Vought & Co., of No. 159 East 54th street, is one of the most substantial high-class building firms in the city. They have been connected with the building trade since 1882. The best evidence one can produce regarding its efficiency as a building firm is the list of structures completed by them. Among the more prominent are the woodwork on the new Third avenue Cable Building, 66th street and Third avenue; Convent Sacred Heart, 133d street and Convent avenue; Skin and Cancer Hospital, 19th street and Second avenue; Batchelor Apartments, 32d street and Madison avenue; West End Chapel, 105th street and Amsterdam avenue; St. Thomas Church, 60th street, First and Second avenues; building for Mr. E. H. Laudon, 44 East 66th street; building for Mr. John Eastman, Tarrytown.

F. H. Wakeham.

Mr. F. H. Wakeham, office 175 West Houston street, belongs to the younger element in the mason and general contracting trade in this city. It was in 1890 that Mr. Wakeham decided to open an office and enter the arena of competitive contracting. He was well qualified for the work. He possessed a thorough knowledge of the building trade in all its details; he had

served his apprenticeship under his father and grandfather, both of whom were builders in this country and in Europe, and he became proficient under them. Previous to his opening his office, Mr. Wakeham had served as foreman and superintendent to several of the more prominent and substantial builders in the city. Mr. Wakeham is identified with the Mechanics' and Traders' Associations and is a member of the Mason Builders' Association of New York. Some of the more important contracts which he has completed were the masonry of the \$300,000 alteration to the Hotel Albemarle and the erection of factories at No. 118 Hudson street and No. 137 Mulberry street; residence at No. 11 East 61st street, and apartment house at No. 967 Western Boulevard.

James G. Wallace.

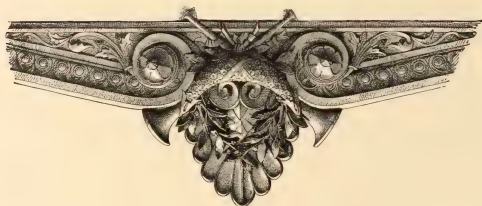
James G. Wallace, of No. 56 Pine street, is a well-known New York builder of the better class. He has had wide experience extending over eighteen years, and during that time he has completed such buildings as the Taylor Building, the Wallace Building and the Beard Building. Each of them is a twelve-story, modern office building situated in the office section of the city. For the past ten years Mr. Wallace has confined his building operations to the mercantile portion of the city and many of the warehouses in Greene street and that section have been constructed by him. Previously Mr. Wallace built extensively in the middle portion of the upper East Side, that territory between 26th and 59th streets. In that section he built many tenements, flats and apartment houses.

Thomas G. Wallace.

Thos. G. Wallace was associated with his father, William Wallace, in the building trade for fourteen years. Four year ago he started in business for himself at No. 130 Lexington avenue. Mr. Wallace is a general contractor, but he makes a specialty of remodeling buildings. A list of the buildings which he has erected includes the Center Court Apartments in West 28th street; the Hotel Bernard, in Lexington Avenue, at 30th street; Dr. John R. Conway's house, in Gramercy Park, and his present office building, in Lexington avenue. He has done work for such architects as Clinton & Russell, Renwick, Aspinwall & Owen, Parish & Schroeder, John B. Franklin, Hill & Turner and Charles Bull. Although Mr. Wallace is comparatively a young builder, he has served a long apprenticeship under the very best of masters. A practical knowledge of the trade is very essential in building as may readily be seen. While the architect's technical knowledge may be in a large measure theoretical, in the case of the builder this must be supplemented by experience in actual construction. There are many fine points connected with the erection of a building which cannot be learned from text-books, and, as a mere matter of safety, cannot be learned by experiment.

P. Walsh.

Mr. P. Walsh belongs to the solid and reliable class of carpenter-builders and general contractors who have contributed in no slight manner to the building and house construction in New York. He has been established since 1872, and has built to a great extent in the lower section of the west side. He is a legitimate builder and has built on contract many factories, churches, mercantile buildings and private residences. Among the more important contracts completed are the Temple Beth El, Bowery Branch Y. M. C. A., churches of St. John the Evangelist and the Sacred Heart, Ursuline Convent, in Bedford Park, St. Elizabeth's Academy, Home of Little Sisters of the Poor, in 106th street, and a mercantile building on 34th street and Tenth avenue.





A RELIC OF OLD NEW YORK.
Amsterdam Avenue and 86th Street in 1890.

A REVIEW OF BUILDING IN NEW YORK CITY.

HOW New York City has grown to its present dimensions is one of the most interesting and instructive of studies. Why it is in process of reconstruction now and what forces are shaping its future are matters of concern not only for the city fathers but for every property-owner and every man who is engaged in the great work of reconstruction and extension.

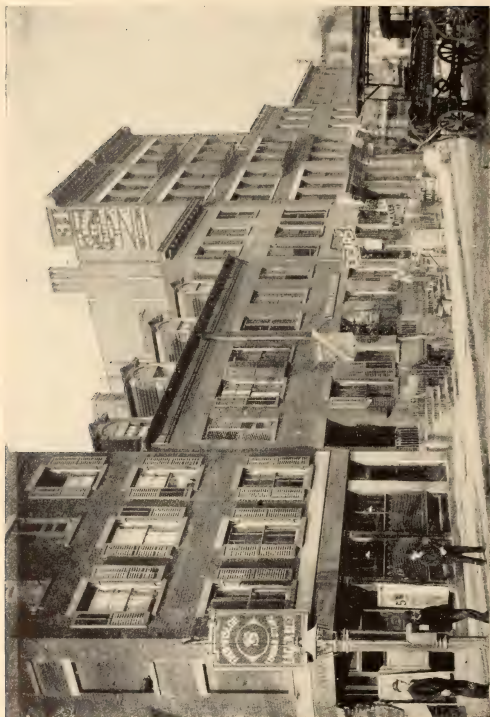
It was said by an architect only a year or so ago that he could trace the growth and expansion of the city by its architecture, beginning at the Battery with the old Dutch brick walled, tile roofed, houses, part shop and part dwelling, and tracing its periods through the changing phases of Colonial, Greek, Gothic, French, French Mansard, Queen Anne, Romanesque, and again French Renaissance orders and styles of architecture. Perhaps he would still be able to do so, but the monuments by which he would proceed are fast disappearing. In a little while he will not be able to trace the growth of the city by architectural periods, for the city is undergoing transformation. The old orders and styles are passing out of use. The buildings of more than twenty-five years of age are all doomed to destruction. The millions upon millions that they represent are, have long been, merged in the value of the land, and the recognized requirements of the future city are calling for buildings of an order that is new to architecture and construction. One of the most beautiful, elaborate and expensive office buildings the city could boast, built just thirty years ago and of the most massive, fire-proof construction, was torn down two years ago and replaced with one not more beautiful or architecturally true, but "up to date" in its capacity, equipment and provision for modern requirements. The New York Life building operation is an extreme example, not likely to be followed by individuals or many other corporations, but it is illustrative of what is in progress all over the city. To be able to appreciate the movement at its full

value we must go back a generation and examine the conditions of construction as they existed at that time.

Building in New York has from the beginning been largely influenced by economic considerations. Ever since the city outgrew its colonial character and took on metropolitan characteristics it has been a profitable field for the builder and real estate operator. In no other city in the world has so much capital and such an array of forces been employed in producing homes and places of employment in anticipation of immigration and the natural increase of population. This combination of capital and labor in productive forces operating in a single industrial field has grown with the growth of the city until its annual capacity in the production of new buildings amounts to more than the annual cost of provisioning the entire city. In times of national prosperity there has been profitable employment for all these forces and by their efforts vast sums have been added to the permanent wealth of the city. But there have been lean years as well as fat ones, and in them competition has at times dealt harshly and severely with these forces. Yet out of this competition have grown some notable advances and improvements in the arts and systems of construction.

Twenty-five years ago the system of construction, no less than its architectural design, was in a state of transition in New York City. There had been several years of practice in the French Renaissance style, with modifications now and then in its application to commercial construction, and there had been attempts to establish some forms of the passenger elevator in the higher buildings. But in the fall of 1871 the Chicago fire raised, among other things, some important questions regarding the fitness and sufficiency of materials for certain uses, the economy of non-fire-proof construction, and the possibility of a larger use of the area to be built upon.

All of these were essentially economic questions, having reference in their final solution to the main question of income in its relation to the investment. For, although New York has many notable examples of ecclesiastical, academic, institutional, domestic and civic architecture, the greater portion of its construction has been commercial, and in this class of construction the economic consid-

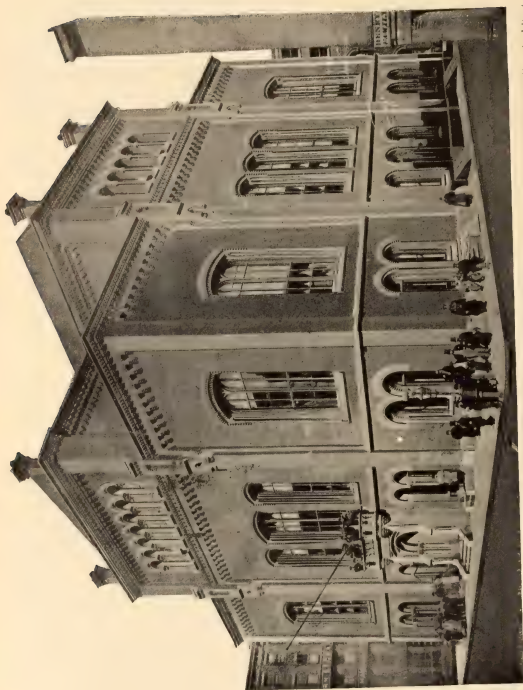


GREENE AND THIRD STREETS
(Prior to 1890.)

eration, from an incidental relation, has grown to be the first. Many years prior to 1872 New York City real estate had taken on a mercantile quality rarely found in real estate operations before, and had become a favorite medium of investment for persons of surplus means. The question in all such cases is, first, "how much will it cost?" second, "how much will it pay?"

As we look over the last quarter century of real estate and building activity in New York it seems as if every effort in commercial architecture and construction has been addressed to the solution of these two questions. And the effort to solve them favorably to the speculator and the investor has resulted in some very remarkable changes in the art and system of construction. The evidence is conclusive that in and through it all there has been a conscientious and persistent effort in the direction of improvement. This effort, we now see, was not always wisely or intelligently directed. The conviction in course of time entered the minds of our builders that beauty, in its relation to construction, possessed the element of commercial value, and the effort to apply beauty to their stereotyped forms of construction resulted in some grotesque creations.

But at the beginning of this period of review the architect was just emerging from a position of subordination to the builder and architecture began to be considered as something more than a barren ideality. Our builders had previously been their own architects, a fact which produced at least one satisfactory result from the point of view of the present; their works in general are so simple and inexpensive that they count now as simple encumbrances of the soil, like old stumps and field stone. In sales of property that was improved more than thirty years ago the buildings seldom figure, either as assets or liabilities, in the present value of the property. They are utterly unsuited to the requirements of our modern day, yet they cost nothing to remove. The emancipation of the architect naturally resulted in a broadening of the whole field of construction. In their day every novelty in design or materials was deemed an improvement, and in one respect at least they were entitled to the distinction, for they served to raise from Manhattan Island the reproach of brownstone monotony, that had justly attached to all its



Leopold Ehlitz, Architect.

THE OLD PRODUCE EXCHANGE.
(1860.)

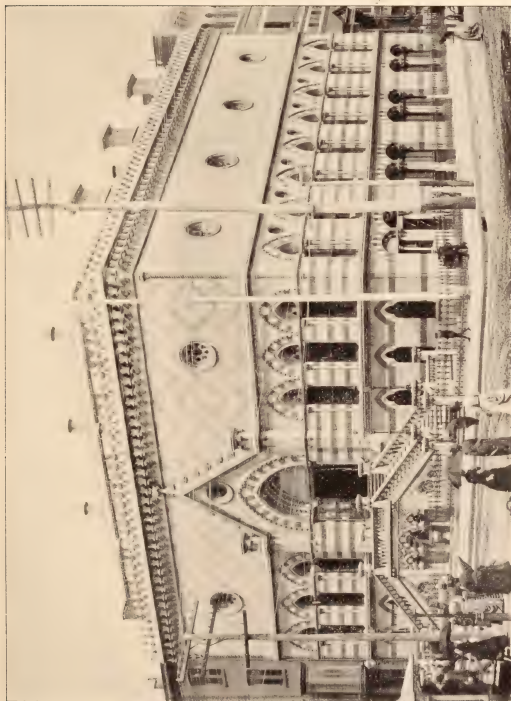
works for a generation. For commercial, domestic and institutional building the material of the façades was always the same, the everlasting brownstone. Here and there, indeed, the one inevitable design was occasionally worked out in the more expensive grey-stone, a tacit acknowledgment of the general indictment.

Originality in design and materials was under these circumstances at a premium, and the man who designed the first Renaissance façade, with its columns, pilasters and arches, its deeply recessed openings, its mansard roof, became the leader of a new dispensation, with imitators and followers of all sorts and gradations. Brownstone was abandoned. The new design called for new materials. Nova Scotia freestone, light grey in color, fine and firm in texture, yielding readily to the carver's chisel, was used to some extent, but our more pretentious buildings were worked out in a light, cream-colored marble, a small quarry of which was uncovered at Tuckahoe, up in Westchester County. Cast-iron, moulded in all the architectural forms necessary to the most elaborate façade, was frequently employed for commercial fronts. The French design was employed indiscriminately, for dwellings, for commercial buildings, for public buildings, for factories and for stables—for structures for which it was well adapted, and for those for which it was in no way suitable. It was even employed for wooden houses and cottages, with wood shingles stained or painted in imitation of slate. Many a man who had up to this period been content to be a practical carpenter or mason builder now wrote himself down an "architect." There was no legal prohibition, and, really, our only American school of architecture up to this time was the field of practical building operations, one in which experience was the schoolmaster. The mansard style, as it was generally termed, had a brief but extensive run in this country. Its sombre wooden examples exist in crumbling monuments still in every town that can boast an existence of thirty years.

The close of this first French period in the building history of New York had been nearly reached when the period of our present review began. We had already in existence, as examples of this style, the Park National Bank, in Broadway, between Ann and Ful-

ton streets; the New York Life Insurance Company's building, at Broadway and Leonard street; the A. T. Stewart retail store, at Broadway, 9th and 10th streets and Fourth avenue; the first Equitable Life Assurance Society's building (with a passenger elevator), from which the present imposing structure has been evolved; the A. T. Stewart mansion, at Fifth avenue and 35th street; the Domestic building, at Broadway and 14th street; the Lord & Taylor and McCreery stores in Broadway; the Masonic Temple, at Sixth avenue and 23d street; the Grand Opera House, at Eighth avenue and 23d street; Booth's Theatre, at Sixth avenue and 23d street; the St. James Hotel, at Broadway and 26th street, with a steam passenger elevator; the Gilsey and Grand Central Hotels, farther up Broadway; the Park avenue, over in Fourth avenue, designed at first for a working women's hotel; the Smith building, in Cortlandt street; the old "Herald building, at Broadway and Ann street; the "Sun" building, and, one of the last of its type, the Drexel building, with passenger elevators, at Wall and Broad streets. There were many others, of generally less importance, for the five years from 1867 to 1872 were productive of \$180,000,000 worth of buildings on Manhattan Island. Some of these were faced entirely with cast-iron, some partly with cast-iron and partly with white marble, some with granite and marble, some with Nova Scotia sandstone and some entirely with Tuckahoe marble.

We were already engaged upon the New York Post Office (for which our beautiful City Hall was dismembered), then generally considered the most imposing sample of the French type of our public buildings. It is significant of the state of the public mind at this time, and of our advance as a nation in our conception of architectural art, that the public prints and reviews in general approved the structure and its location, and there were only a few cultured souls among us with courage enough to protest against the perpetration of such an enormity. We see now that it was the magnitude of the structure, then quite the biggest thing in the country outside of Washington, that won the approval of the pictorial press, and with it the mob. It is so even in our own times. Many an architectural monstrosity has gained a permanent location and



23d Street and Fourth Ave., New York City.

ACADEMY OF DESIGN.

(1862.)

P. B. Wight, Architect.

public approval in the American metropolis that has little besides its monumental proportions to recommend it. Things need only to be bigger than common to gain the approval of the majority, and in a democracy, of course, the majority always rules.

Quite a considerable number of the buildings of the French mansard type were of nominally fire-proof construction; that is, they were constructed with broad and massive foundations and walls of masonry, with iron floor beams and girders resting upon these walls and upon cast-iron interior columns or brick piers, and with floor arches of set up brick or corrugated iron, each leveled up with concrete. The stairways were either of stone, encased in brick, or of cast-iron in open hall court. Up to this time (1868-1872) construction for commercial or office purposes seldom exceeded five stories. The economic line was generally drawn at the fourth floor. Above that, except in newspaper offices, only the youthful and cheaper classes of operatives were expected to go. The effective force of the average office and warehouse employee would stand two flights of stairs without complaint, three flights with murmuring and some loss of effective force, but four flights only in sedentary employments. In other occupations the loss of time and energy in climbing four flights of stairs was not compensated for by the cheaper rents or other advantages of top-floor locations. In most commercial buildings the top floor was used for light manufacturing or bulky storage and packing purposes. In office buildings the inevitable janitor had his residence on this floor, his flower garden, truck patch, back yard and summer house on the roof. In all the commercial buildings erected during this period there were elevators, for freight, worked by hand, with a geared horizontal windlass that was suspended from a wooden frame at the top of the elevator shaft. It was a slow affair, but it answered its purpose without improvement for many years. But it was also the germ of the present passenger elevator system, the main factor in the most momentous revolution in building known to modern times.

Two events happening at about this time brought the French mansard style of that period and its nominal fire-proof methods of construction to a test which it could not stand, and it was almost



Fifth Avenue, New York City.

TEMPLE EMANU-EL.
(1868.)

Leopold Eidlitz, Architect.

as suddenly and completely dropped as it had leaped into favor five or six years before. The bringing of the passenger elevator to conditions of practical utility threatened the future of high-class commercial and hotel construction, before even the great fire of Chicago, on October 9 and 10, 1871, subjected building materials then in use to a crucial test, the result of which was to forever discredit some forms of construction then extensively employed and to relegate some materials long held in high favor to inferior positions. Chicago at the time of its famous fire contained the larger proportion of wood construction common to Western cities, and a considerable amount of nondescript cheap brick and wood construction, but it had also at the time many nominal fire-proof buildings of the French mansard style, and more cast-iron front commercial buildings, with wooden interiors and flat roofs. For her more pretentious buildings she had a fine, close-grained, tough, buff limestone, called Lamont marble, the product of quarries found within forty miles of the city in two directions. The conflagration swept the entire business portion of the city and large parts of its choicer residence sections completely out of existence. Over 18,000 buildings were destroyed, involving losses aggregating \$200,000,000, which, through the ruin of many insurance companies, was distributed indirectly pretty much over the entire country.

Certain results of this historic blaze made lasting impressions upon construction in all great centres of population. The loss of capital through the ruin of insurance companies and of mortgagors compelled a study of the means of prevention of such fires, and this study, as a matter of course, began with the materials and systems of construction. A few of the fire-proof buildings held out valiantly against the consuming element and were not entirely destroyed, though every particle of combustible material contained in them was destroyed and much of the iron work was so warped and twisted that it had to be taken out. Cast-iron, for the fronts of buildings, in streets of less than a hundred feet in width, was found to be most treacherous. In several instances these fronts expanded and buckled and fell into the street from the effects of the intense heat radiating from burning buildings on the opposite side of the



CHURCH OF THE HOLY TRINITY.

Madison Avenue, New York City.

(1870.)

Leopold Eidlitz. Architect.

street, before their combustible interiors had taken fire. Limestone proved but a poor resistant of the heat, cracking and crumbling quickly upon exposure; granite was better, some qualities, containing larger proportions of quartz, giving way quicker than others. The freestone fronts, of which there were several, from Indiana quarries, best withstood the heat test, among the building stones, but brick alone proved a perfectly reliable resistant in the wall mass. Among the Chicago clay pits, however, were some that were largely impregnated with iron and sulphur, and the phenomenon was observed, after the fire, of apparently perfect brick, the interior contents of which fused and run out, leaving only the hollow shell remaining. In other mounds of ruins iron, glass and clay were mixed in solid molten masses. It was also observed of the freestones that such as were laid on their natural bed in the wall withstood the effects of heat and water better than where the stone were set on edge. In the latter case it frequently scaled off in large flakes, necessitating sometimes the taking down of the entire wall.

Investment in Buildings.

All of these facts, the apparent certainty that the elevator had come to stay; the failure of many materials to stand the heat test, the necessity for better protection against fire, and one other fact, the lowering financial skies that broke a year later in the most disastrous panic this country has ever experienced, brought the building movement of 1868-1872 to a practical cessation and inaugurated a period of extremely conservative business in the real estate and building lines in New York. The maximum of construction for this period was reached in 1871, when 2,782 buildings, costing \$42,585,391, were erected. From this the decline was rapid to 1874, when the year's production embraced only 1,388 buildings, costing \$16,667,414. In the following year the great Park Avenue Improvement, a joint operation between the New York Central Railroad Company and the city, by which the rapid transit tunnel was constructed and the open cut through which the railroad ran from 49th to 106th street, was closed and converted into a tunnel, was completed. This induced a slight recovery from the stagnation



CHICKERING HALL.
(1874-5.)

Fifth Avenue, New York City.

Geo. B. Post, Architect.

of the previous year, and building to the amount of \$18,227,000 resulted. But the recovery was not sustained. The operations of builders fell off in 1876 to \$15,904,000, and in 1877 to \$13,365,000—a drop of 70 per cent. from the figures of 1871!

But this was bed-rock year with the building trades, as well as with all the other principal industries of the country. From 1877 dates the revival of the building industries. The factor which contributed more than any other, perhaps more than all others, to the revival of building which began in 1878-79, was the construction and inauguration of the elevated railroads. After the period of depression, which extended from 1873 to 1879, and which ended with the resumption of specie payments on the 1st of January of that year, building began to greatly increase in activity. It was slow at first, 1878 showing only \$15,209,000 worth of work laid out, but in 1879 there was \$22,567,000 worth; in 1880, \$29,115,000 worth, and in 1881 the figures of 1871 were again exceeded, with a total of \$43,391,000 worth of work planned for. The effects of the panic and the long ensuing season of depression were past and the spirit of industry again was buoyant. But values were no longer speculative. The lesson of experience had been a bitter one, but it had been thoroughly ingrained. Values were thereafter to be determined only upon productive capacity and actual demand for consumption. So they have ever since continued, which is largely the reason why, during and since the panic and prolonged financial stringency of 1893-94, real estate suffered a less depreciation than any other property. If a vacant, unused lot is worth \$10,000 in the market it is because when improved in the manner of surrounding property it will readily sell for that sum. If an improved business property is worth \$100,000 in the market it is because it pays 6 per cent. net or more per annum in rentals or would do so if reimproved and will in reasonable probability continue to do so. These in general are the principles which govern values in these days and which give stability to the market in trying times.

The cost of new buildings continued to grow without important fluctuations from the figure of 1881 until 1886, when it jumped from \$46,000,000 to \$58,500,000, and to \$67,000,000 in 1887. In 1888

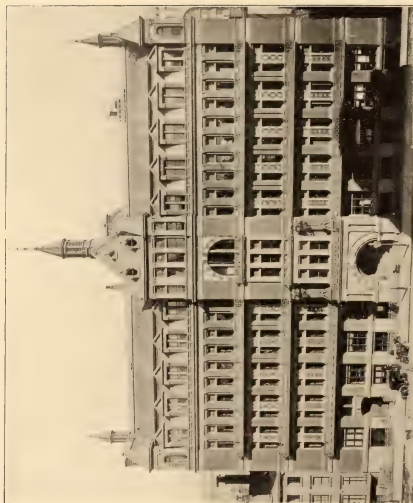
came another season of financial depression, and building dropped to \$47,000,000, only to grow again with the disappearance of the depression to \$69,000,000 in the following year and to the highest total ever reached in the history of construction in any city, up to that time.

Mechanical Appliances in Building.

There were few changes in the systems, methods and materials of building from 1868 to 1873. On some of the more important business and institutional buildings, the mason builders had experimented with steam platform elevators (after having discarded the horse power-boom derrick, which was used to some extent in the '50s, with half-barrel scoops in which the bricks and mortar were raised and dumped wherever wanted on the building), but this was not an economical method, except on large buildings of four or more stories. The platform elevator with a single pulley hoist, for which the power was furnished by a horse walking away with the line to lift and backing up to allow the platform to drop by force of gravitation, was the hoisting system generally employed for raising brick, mortar and wooden beams above the first story. Stone and iron were raised by derricks operated by hand windlasses, an exceedingly slow method, until larger buildings came to be built. The first derricks in this city on which steam was used for the motive power, were used by Builder Jeremiah T. Smith, in 1870, in constructing the foundations of the new Post-office.

The first application of steam power to derricks used for the raising of iron, was on the Morse Building, in Nassau street, by Post & McCord, in 1878. One day Mr. Post, of that firm, sat impatiently watching the incalculably slow motion of the derrickmen in hoisting a girder. He began to think about plans for getting up some show of speed in that branch of the work, and, after figuring a little on the problem, very promptly concluded that steam power was what he wanted. That same day he purchased a boiler and engine, and the next day had it in operation on the job. In speaking of it, Mr. Post said: "I saved the cost of the boiler and engine on that job."

It was in 1870-71 and '72 that the chain-ladder elevator came into



THE NEW YORK HOSPITAL.
East 15th Street, New York City.
(1873-6.)

Geo. B. Post, Architect.

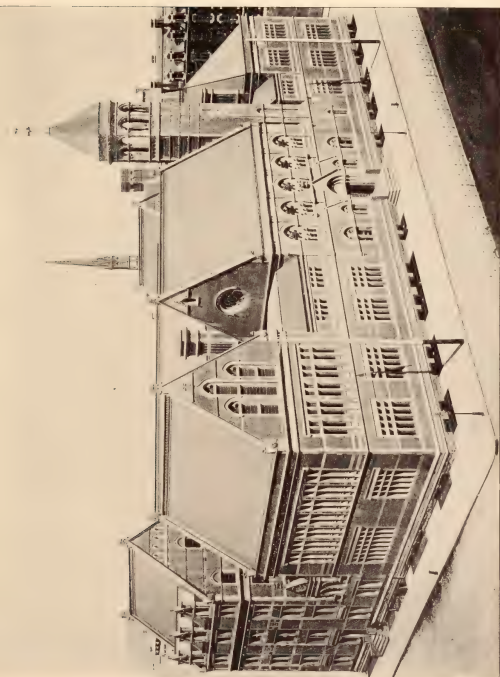


C. C. Haight, Architect.

HAMILTON HALL—OLD COLUMBIA COLLEGE.

1880.

use. The tradition of this matter is a little contradictory, but from the best information obtainable, it appears that the chain-ladder type of hod-hoisting machine was first employed in the construction of the Post-office. In its original form, it was operated by a hand windlass from below, but after falling bricks had indented the skulls of a few operators, the windlass was shifted to the top floor. This machine was slow of operation and, therefore, grew but slowly in favor. It was not until the application of steam, in the late '70s, that the hod-hoisting machine began to exert a marked and important influence in lessening the cost of construction. In its present form it is one of the most effective—if not the most effective—of labor-saving devices in the building industries. With the steam derrick for the hoisting of stone and iron, and a modern hod-hoisting machine, and a platform elevator for fire-proofing and wheelbarrows and small materials, the labor cost of construction has been reduced by from 50 to 80 per cent—according to the height of the building. Really, if builders were bound to the slow and tedious processes of hoisting and handling materials that obtained twenty-five years ago the cost of construction of twelve and twenty-story buildings would be well-nigh prohibitive. Then a block of stone or an iron beam would be moved by aid of wooden rollers and pinch-bars to a point directly under the derrick, and when the clamps were applied four men would apply themselves to the cranks of the windlass, another would tend the guy rope and often another would tend the tackle from the top of the building. In tedious course of time the stone would reach the top, and with much tugging and pulling would be brought to position. Now the stone or beam is grappled at any point within reach on the sidewalk, a lever is turned, the steam windlass revolves twenty times, where formerly it revolved once, the top is quickly reached, another lever lifts the boom and guides it to desired position and the stone is dropped just where it is wanted. Twenty times the amount of work can be done with this appliance that was formerly possible with the hand derrick. If the cost of fire-proof buildings has declined from \$3 to 35 cents per cubic foot in twenty-five years, as some maintain, no small part of this economy has been effected by the steam hod-hoisting machine, the steam platform elevator and the steam boom derrick.



UNION THEOLOGICAL SEMINARY.

Park Avenue, New York City.

1883.

W. A. Potter and James Brown Lord, Architects.



1871.

THE LIBRARY—OLD COLUMBIA COLLEGE.

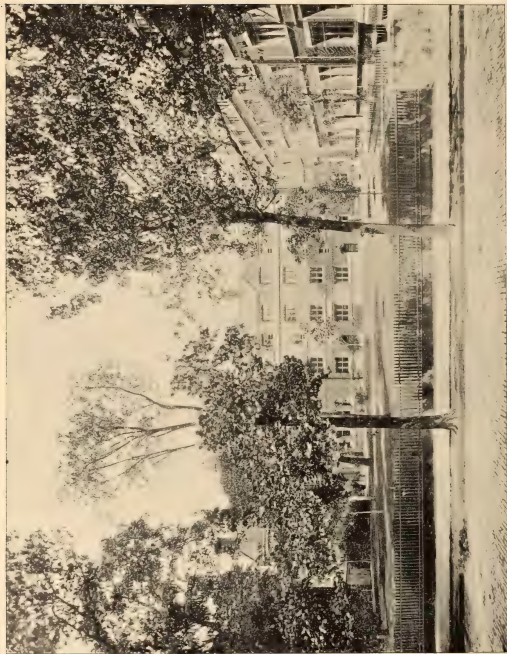
C. C. Haight, Architect.

Passenger Elevators.

The rapid development of the passenger elevator has had an important and far-reaching result upon construction, mainly in this country, but also in foreign lands. After the trial of the vertical screw elevator in the Fifth Avenue Hotel, years prior to 1868, there was a long period of some six or seven years, during which the inventors and manufacturers of passenger elevators received but poor encouragement from builders or the general public. The history of their early trials and tribulations is a lesson in the value of perseverance in well-doing. The first of the suspended steam elevators of the Otis type was put in the St. James' Hotel in 1866, two years before the beginning of our period of review. This type came into pretty extended use during the next seven years, but it never attained to popular approval. The jerky motion that was well-nigh inseparable from them and the accidents that attended their introduction were factors inimical to their growth in popularity.

Then the water-balance elevator was invented. It was a great improvement upon the steam elevator, but in its original form—a cage in a shaft, suspended over a pulley by a wire cable, at the other end of which was a wrought-iron bucket a little less weighty than the cage, and which was filled at the top of its cylinder with water from a tank, and when the brake was loosened would descend by gravity and pull the cage up, and at the bottom of the cylinder was emptied and threw the balance of weight to the cage, which would then descend and pull the bucket up—it was liable to escape from the control of the operator and produce startling and unpleasant if not injurious sensations. It was first placed in this form in this city, in the new Western Union Building, in Broadway, in 1873, and continued in service there until the fire in that building in 1891 destroyed it. The fastest speed ever developed in passenger elevators was by this gravity system.

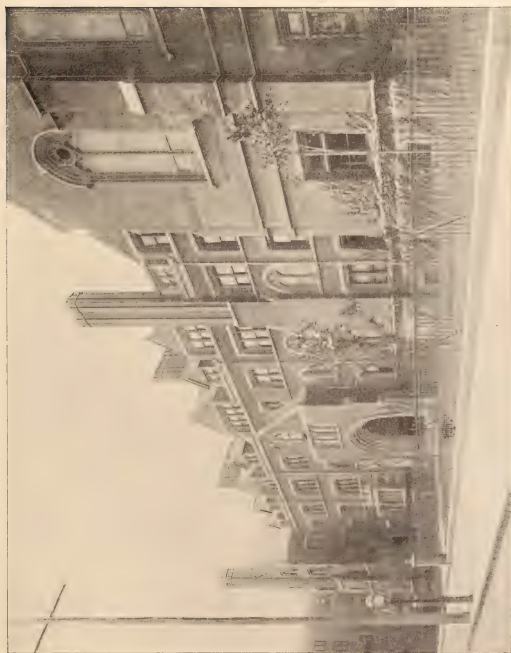
Europe was, about this time, experimenting with direct acting hydraulic ram elevators, which required the construction of a vertical cylinder in which the plunger operated, beneath the car and as deep in the earth as the elevator shaft was high above it. It was safe enough to overcome the scruples of even the Europeans, but it was



GENERAL THEOLOGICAL SEMINARY—EAST QUADRANGLE.

C. C. Haight, Architect.

1887.



GENERAL THEOLOGICAL SEMINARY.

Chelsea Sq., 9th Ave., 20th and 21st Sts.

C. C. Haight, Architect.

1887.



1887.

LIBRARY, GENERAL THEOLOGICAL SEMINARY.

C. C. Haight, Architect.

very costly, slow and impracticable for buildings of more than five or six stories. Some were constructed in this country, but few of them are now used, and these only in Europe.

In an effort to obviate the difficulties of the hydraulic-ram elevator the telescope cylinder was invented, and one of these was placed in the new Post-office Building in this city. But it was uncertain of action and difficult to keep in repair, and was therefore abandoned. Then came the vertical cylinder hydraulic elevator of the modern type, and lastly the electric elevator. These have practically superseded all former types, and are in general and rapidly extending use in this and other countries. It would be folly now for anyone to construct an office building or hotel or apartment house of even ordinary size without them, and business buildings are behind the times that are not equipped with them.

The effect of this development of the passenger elevator upon modern construction has been revolutionary. Buildings like the Park National Bank and the New York Life Insurance Building, constructed in 1868 and 1869, were not designed to use elevators. Before this time there was no object to be gained in building office buildings more than five stories high, for above this they would not rent. When they began to be increased in height, in consequence of the improvements in the elevator, the first ventures were but moderate. The steam elevator of that period was a disagreeably pulsating affair, and builders had their misgivings as to what would come of it. However, the Equitable Building, the first section of which was built in 1869-70, was an elevator building. Passenger elevators were not only recognized as a necessity for new high buildings, but for the older buildings with any pretensions to size, they were equally necessary.

Fireproof Buildings.

One of the results of the great fires in Chicago and Boston was to test building materials as they had never been tested before, and in that test many preconceived notions were unsettled and removed. Fronts of cast-iron received their death blow; granite was shown to be a poor resistant of heat; limestone stood the ordeal better, but



1888.

EAST FRONT, HAMILTON HALL—OLD COLUMBIA COLLEGE.

C. C. Halght, Architect.

scaled and flaked badly wherever it was set in any degree off the level of its natural bed; sandstone, of all the stones, to which family belong our brownstones and graystones—such as the Belleville, Greenville and Long Meadow and Nova Scotia varieties—best withstood the action of the intense heat. But better by far than all stones, was brick. Brick, hard and well made, again demonstrated its superiority as a building material in the trial by fire; though even these did not always resist the action of the crucial element.

Fire-proof construction, as it had been known up to this time, was found to be no security against such an ordeal. Wooden doors, door frames and window frames and unprotected glazed windows, afforded easy ingress to the fire, which once inside the fire-proof building found plenty of material—wooden partitions and trim, wooden floors, office and store furnishings and fittings, combustible merchandise, often wooden elevator shafts and wooden Mansard roofs, with outside coatings of slate. These facts were not overlooked by New York architects and builders. They made their impression upon the craft in every city of the civilized world, and led to the revolution of building construction. The fire insurance companies, those which survived, instituted many new safeguards against fire and by differentiating their tariffs, charging high rates where they were ignored and reducing in proportion where they were adopted, led to their widespread adoption even in this city.

A list of the fire-proof buildings in this city (or to be exact, in the Borough of Manhattan) would be an almost endless one, but making brief reference to the earlier ones of modern construction in their chronological order, the Park Bank was constructed in 1868, and the old New York Life Insurance Building in 1869. The Equitable building was constructed in 1870; it was built with granite front walls, in the prevailing French style, with Mansard roof. The interior construction was of masonry partition walls, iron beams and segmental brick arches. It was originally five stories high. Jer. T. Smith was the mason, J. G. Batterson the granite contractor, and J. B. & J. M. Cornell the iron contractors. In 1887 the building was enlarged to its present symmetrical dimensions, Geo. B. Post being the architect and David H. King, Jr., the builder. In



TOWER OF MADISON SQUARE GARDEN.

New York City.

(1889.)

McKim, Mead & White, Architects.



THE MUSEUM OF NATURAL HISTORY.
(Present condition.)

New York City.

Cady, Berg & See, Architects.

the first section the floors were constructed of common brick arches between iron beams and furred underneath with metal lath, plastered, to get level ceilings; the minor partitions were of angle-iron studs, covered with metal lath and plastered. In the added portions of the building the floors were of hollow burnt clay flat arches, between iron beams, and the partitions were of burnt clay blocks. The next fire-proof building of importance was the Drexel Building, at Broad and Wall streets. It was built as an elevator building, seven stories high, in 1872. It was one of the last of the French type of business structures, was built of white marble, with fire-proof interior construction, and with a Mansard roof. Two other office buildings were built in Wall street about this same time and to about the same height. These were equipped with steam elevators, without which they would not have been built so high. The Western Union Building, at Broadway and Dey street, was the first of the really large office buildings to be erected. It was built in 1873, ten and a-half stories high, the three upper of which were in a mansard roof. Geo. B. Post was the architect and Smith & Rogers the builders. It was equipped with two elevators, one of them a water balance (the first to be built in this city) the other a steam elevator. Two months later the Tribune building, from plans by Richard M. Hunt, was started, Peter T. O'Brien being the builder. It was planned as an eight-story building, with two steam elevators, for which hydraulic elevators have since been substituted. For many years the Tribune building, with its tall tower, was the most conspicuous architectural work in the down-town section of the city. But this was in the midst of the long period of depression in the building trades, and the construction of buildings influenced by the improved passenger elevators did not begin in real earnest until the resumption of investments in real estate about five years later, in 1879. Then came in order as named the Boreel building; the Morse building, in 1878; the original Temple Court, in 1878-9; the United Bank building, in 1880; the Mills and Potter buildings, in 1881-82; the Produce Exchange, in 1881-84; the Welles building, in 1881; the Western Union Telegraph building, at Fifth avenue and 23d street, in 1883; the Standard Oil and the Washington buildings,



NEW YORK SKIN AND CANCER HOSPITAL.
NEW BUILDING
(1897.)

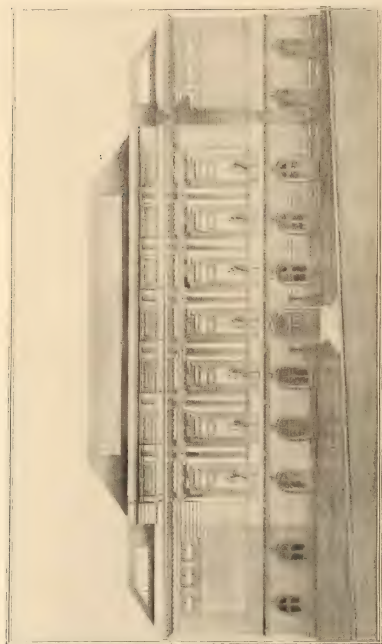
Cady, Berg & See, Architects.



HUDSON STREET HOSPITAL.
(1897.)

New York City.

Cady, Berg & See, Architects.



THE NEW ACADEMY OF DESIGN.
Southeast corner Amsterdam Avenue and 110th Street. (Now building.)

Carrère & Hastings, Architects.



MADISON SQUARE GARDEN.
New York City. McKim, Mead & White, Architects.
(1889.)

in 1884; Aldrich Court, in 1886; the United States Army building, in Whitehall street, in 1886-88; and the Consolidated Exchange, in 1887. These buildings were all of the fire-proof type of office building, with solid masonry walls, iron or steel beams and girders, and iron or masonry interior supports. The floors and partitions and the material of construction partook in each instance of the very great improvements which characterized this period and which, after 1875, greatly lessened the cost of construction in each successive case, as we shall see later on.

Compared with the cost of construction in 1868-69 the buildings constructed on the fire-proof plan, and designed to be used with elevators, in the period from 1874 to 1880, were cheaply built. Wages had declined to \$2.50 and \$3 for bricklayers; the same for carpenters; \$2.75 to \$3 for stone masons; \$3 for plasterers; \$2.50 for painters, and \$1.75 to \$2 for laborers. These were less by from 25 to 50 per cent than they had been. Materials, too, were cheaper by about the same percentages. Brick that ten years before ruled from \$7 to \$12 per thousand, sold now at from \$5.25 to \$8.25. Cement had declined from \$1.75 to \$1.10; lime from \$1.25 and \$2 to \$1 and \$1.15; pine lumber from \$22 and \$25 to \$17 and \$18; hemlock in about the same proportion; spruce remained about the same; granite declined from 75c. and \$1.50 to 60c. and \$1.25; freestone from \$1.15 and \$1.40 to 75c. and \$1; marble from \$2 to \$1.25 and \$1.50, and other materials generally in similar proportion. Iron was high, American pig ruling at \$33 and \$34 per ton, and wrought beams selling at 4.6 cents per pound. The average cost of the buildings declined from \$19,021 in 1873 to \$9,102 in 1878. They jumped from the latter figure, however, to \$17,381 in 1882 and to \$21,282 in 1893, not on account of any increase in prices or labor, for the increase had not yet taken place, but rather because larger and better classes of buildings were being erected.

Notwithstanding these facts, from the present point of view all of the buildings which have been mentioned, as all that were built previous to 1889, were of very expensive construction. Although the interior construction was much lighter than would have been the case had masonry supports been used, the main walls of all



THE HERALD BUILDING.

Herald Square, New York City.

(1892.)

McKim, Mead & White, Architects.

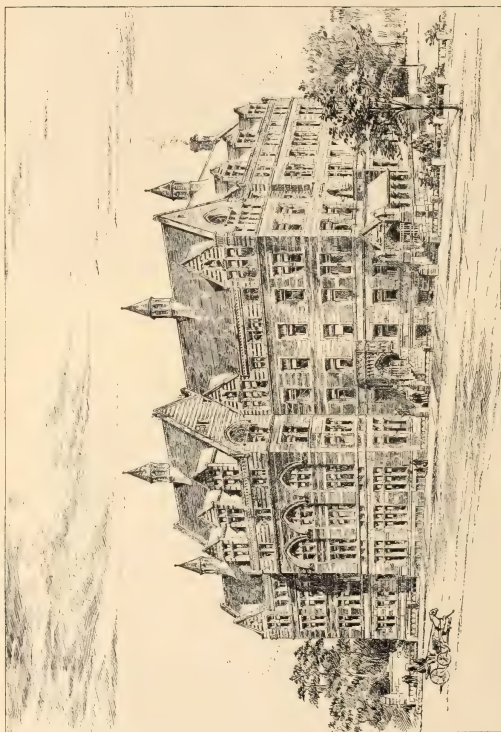


PROTESTANT HALF-ORPHAN ASYLUM.

Manhattan Avenue, New York City.

(1893.)

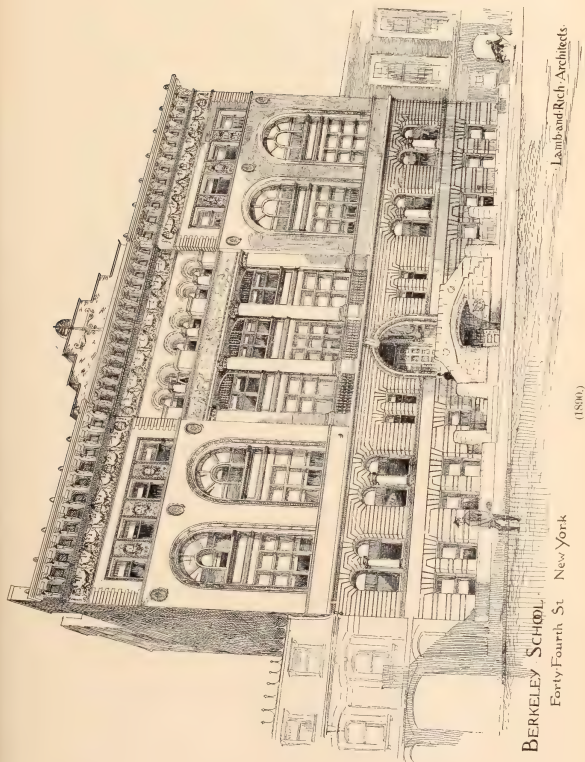
Cady, Berg & See, Architects.



THE TEACHERS' COLLEGE.
(1893.)

Morningside Heights, New York City.

W. A. Potter, Architect.



BERKELEY SCHOOL

Forty-Fourth St New York

Lamb and Rich Architects

(1890.)

these buildings were necessarily of very heavy construction. This fact imposed restrictions upon the height of buildings which even the steam elevator could not overcome. The object planned for, then as now, was rentable floor space. Except in a few cases the lower floor produced the highest income from rents and the rentals grew less as they progressed towards the top floor. The higher the building the thicker and broader the walls had to be, and thick walls consumed the greater amount of space in the most valuable parts of the building. There came a point, therefore, at which the consumption of floor space in the lower stories more than offset the productiveness of the increased floor space at the top of the building. This difference in the rentable value of the floors was largely equalized by the perfection of the easy and rapid moving hydraulic elevator, and the later structures of this character are accordingly the loftier.

But about the time that the fact became clearly demonstrated that there was an active and growing demand for offices in the upper stories of the tallest buildings, the last and greatest improvement in the system of construction of office and business buildings—the steel skeleton construction—made its appearance. A framework of steel is embedded in masonry and carries all the floor loads, together with the outer walls themselves, or the steel cage may be so placed as to carry the floors only, leaving the outer walls to sustain themselves independently. The powerful incentive of saving space required by the old method of solid walls soon secured the adoption of the skeleton construction for high buildings. The goodly number of tall buildings—including the Manhattan Life, the Cable, the American Surety, the St. Paul's, the Bowling Green, the Empire, the Syndicate—that have been erected within the past few years on the skeleton principle make it manifest that we are as yet only in the infancy of tall building construction. Unless the law, for public sanitary reasons, shall interfere to prevent their multiplication, there is every reason to believe that their construction will go on to increasing altitudes and until the entire business district is covered with them. New York is peculiarly the home for such structures. Here they may have the solid rock for their foun-

dations and broad waterways on either side of the island insure for them better climatic surroundings than they would have anywhere else in the country. The demand for such structures, moreover, is greater in this city than in any other, and the values placed upon the naked ground require that it shall be improved with this class of buildings to make it productive.

But it is not alone in office buildings that the combination of hydraulic fast passenger elevators and steel skeleton construction has worked a transformation. Hotel construction has been very materially affected by it. When the Fifth Avenue Hotel was built, in 1859, six stories high, it was esteemed a wonderful building. The central section of the Hoffman, seven stories high, was opened in 1864. Then followed the St. James, at 26th street, with steam elevators, in 1866, and in 1874 the Gilsey, a seven-story building, at 29th street. The last two were of the French Renaissance, Mansard-roof style, and were the most popular hotels in town in their day. The Windsor, at Fifth avenue and 46th and 47th streets, still considered one of the best hotels in the city, is a seven and eight-story building. The Buckingham, at 50th street, six stories high, was built in 1876; a new section, towards the middle of the block, is thirteen stories high, in the new style, and fire-proof. As the city grew towards the north and west other hotels of scarcely less magnitude and importance were built along the line of Broadway, and in Fourth avenue, notably the Murray Hill hotels, and hotels in Fifth avenue. They were all, as popular fancy required, elevator hotels, but they were all of the old type—solid masonry walls and not of fire-proof construction. Even the Plaza Hotel, finished in 1890, was but eight stories high. In the following year, however, the steel-skeleton system began to be applied to hotel structures as well, and the Savoy, of eleven stories; the New Netherland, of seventeen stories; the Waldorf, of twelve stories; the Astoria, still higher, and the Imperial, Holland, New Buckingham, Manhattan and others, of nearly equal importance, have followed and added greatly to the importance and even more to the beauty of our city.

Perhaps the most notable departure from the stereotyped form of



RESIDENCE OF CORNELIUS VANDERBILT, ESQ.
(1882-93.)
Fifth Avenue, 57th and 58th Streets.

Geo. B. Post, Architect.



ENTRANCE TO RESIDENCE OF CORNELIUS VANDERBILT, ESQ.
(1883.)

Geo. B. Post, Architect.

58th Street and Fifth Avenue.

residence was in the building of apartment houses. The first of these were built in 1869. It was not, however, until thirteen years later that the most noteworthy of these houses were built—notable as much for the scheme which brought them forth as for their extent and splendor. These were the so-called Spanish Flats, on 58th and 59th streets and Seventh avenue, opposite Central Park. Spanish names were given to them—Madrid, Lisbon, Cordova, Valencia, Barcelona, Granada, Salamanca and Tolosa. Jose F. de Navarro was the originator of the scheme for their construction. This was a purely co-operative scheme, represented by a stock company, in which the owners of the stock were to become the owners of suites of apartments respectively, and contribute pro-rata to the cost of maintaining the property and of general expenses, such as heating, janitor's services, elevator service, water supply, etc. The design of the houses is Moorish, with many balconies, bays, arches, courts, grand entrances and halls and staircases. The walls are of red pressed brick with brownstone trimmings, and the roofs are of many gabled and turreted slate construction. Through mismanagement and chicanery the co-operative scheme fell through, the stockholders were foreclosed and the property fell into the hands of J. Jennings McComb, the mortgagee, who completed the houses according to the original plans, at a cost for the whole, land included, of over \$4,000,000. The suites of apartments are so arranged in these houses as to furnish to each family all of the conveniences of a separate and independent dwelling, all on one floor. In the richness of their interior construction, appointments and finish, these houses are unsurpassed anywhere in the world. At about the same time the far-famed Dakota apartment hotel, at Central Park West and 72d and 73d streets, was built by the Clark estate, followed in the same period, 1881 to 1884, by the Knickerbocker, at Fifth avenue and 28th street, and the Chelsea, in 23d street, between 7th and 8th avenues—the latter a co-operative scheme, that has proven successful. This type of apartment house has been many times repeated in all parts of the residence section of the city. And from the high type represented by the Spanish Flats, the apartment house has been multiplied in an endless variety

of grades, diminishing rapidly until they are merged in the common tenement type or "cold water" flats. There is no arbitrary rule by which the distinction between the apartment house and the improved flats may be drawn. Perhaps it is the passenger elevator which in present general acceptance determines the difference—those being apartment houses in which there are passenger elevators, and flats in which there are none. But the original apartment houses—the Stuyvesant, in 18th street—were built and still remain without elevators. In these later years, since 1882, when the hydraulic elevator reached the plane of practical perfection, it has been more economical to equip apartment houses of more than five stories with elevators than to dispense with them; but a generally more substantial construction and a more elaborate design and finish are given to apartment houses than to flats. Except in the higher type of these houses, as in the Dakota, the Chelsea, the Spanish Flats, Shoreham, Grosvenor, Osborne, the Nevada, Knickerbocker, Grenoble, Yosemite, Randolph, Beresford, Earls court, the Gramercy Park and the Florence, fire-proof floors and partitions have seldom been used. Since 1892, however, the lower floors of all apartment houses and flats are required to be of iron or steel beams with fire-proof floor arches, so that such houses as are not built entirely fire-proof are required to have a fire-proof covering over the lowest and most dangerous of their stories as a precaution against fire.

Brick—Clay Products.

It is significant of the period under review that within it are embraced all that is distinctively American in the materials and methods of construction. What materials we worked with at the beginning of this period were common to all the world and the methods of their treatment were such as were common to the countries from which our population was recruited. The retrospective view shows that in all that has been esteemed worthy of the achievements of the ensuing period, America has led the world; and, if we have not created a new system of construction, if we have not invented a new order of architecture, we have at least advanced a long distance on the lines that lead toward a national structural system.



New York City.

NO. 4 WEST 58TH STREET.
(1881.)

Geo. B. Post, Architect.



RESIDENCE.

Northeast corner Fifth Ave. and 56th Street.
(1898.)

Clinton & Russell, Architects.

For the first four or five years of this period, as we have already observed, the changes in the methods of building were of no importance, and the records show the employment of no new materials. Marble continued to be king of building stones, in business and office buildings often figuring in combination with cast-iron in the fronts—the iron for the lower stories, the marble for the others. This was also the period of the cast-iron front, and it was in this period, from 1868 to 1873, that the major part of the iron front mercantile warehouses, in the style of the French Renaissance, that line both sides of Broadway, from City Hall Park to Madison square, were built. The French style, with the Mansard roof, continued to hold the public favor, though not without protest from the small band of cultured architects who were struggling to gain a place for their profession in this country even at that time. In the construction of churches, libraries, colleges and other public buildings, they found their opportunities, and they did not fail to plant examples of the classic styles wherever they could.

Changes came after the results of the Chicago and Boston fires became generally known. The materials most in favor before that time for the fronts of the larger business buildings—iron and marble—gave the poorest account of themselves in that test, and lost their popularity. Hard brick and freestone, that had best endured the action of the heat, came more universally into favor, and were used here in combination—of much brick, with freestone for trim; as witness, the Western Union, Tribune, Delaware and Hudson Canal, Boreel, Temple Court and Vanderbilt buildings. In some of these heavy masses of granite were used for the basement stories, that much concession having been made to architectural appearance. In some of them, notably the Western Union, the Mansard roof was preserved, and the walls were even more massively built than in the structures of the French type. But effort was made and with some success to overcome a serious objection to all the office buildings of the Post-office type. This effort was to enlarge the window openings.

In the buildings of the French style, with their many-pillared fronts, their massive entablatures and deeply-recessed windows,

the imposing architectural effects were obtained only at a very great loss of window space and light, or the stories were built so much higher than was otherwise necessary in order to obtain that light. The consequence of this construction was that either the building was so expensive that it would not pay, or the light was so poor that they would not rent, and in either case the results were the same—an insufficient income to justify such an expense of construction. In the newer buildings, beginning with the Western Union, the fronts were of less expensive style, and being elevator buildings, a much greater floor space was secured, but the massive walls were still an obstacle to large window openings, and, although there was some improvement in this respect, the better light was secured by placing the windows well to the front of the walls, and by liberal allowances for light courts.

For the interior construction of these buildings iron came more into use than ever before. In the Equitable Life building the main partition walls were of masonry from bottom to top, with arched openings. These and the side walls carried the iron beams of which the floors were framed, and these were filled in with segmental brick arches, which were evened up with concrete and topped with wooden sleepers and wood or marble floors. In the Post-office the interior floor supports were of cast iron columns, rolled iron girders and iron beams. The floors were also of segmental brick arches. In all of the newer buildings the weight of the floors as of old was borne on the side walls and on interior supports of iron columns and girders, with now and then, as in the case of the Sweetser, Pembroke & Co. building, masonry arches instead of the iron columns and girders. While the masonry supports took up more room, they were cheaper, for rolled iron during this period was from four to five cents per pound.

But the return to red brick fronts was not an altogether agreeable one, and the architects, who by 1873 had gained the upper hand of the builders and were the first to be consulted in the erection of a building of importance, began to lay about them for other materials. The brown and red freestones, marble and other light stones were satisfactory for dwellings and the smaller class of mer-



RESIDENCE.

56th Street, northeast corner Fifth Avenue.
(1898.)

Clinton & Russell, Architects.



No. 17 East 77th Street.

RESIDENCE.
(1897.)

Clinton & Russell, Architects.

cantile structures, but for elevator buildings, churches and other large structures, something was needed to give freshness and variety to the tone of our architecture. Out West they had the far-famed Milwaukee cream-colored brick, but they were expensive there and the freight charges made them well-nigh prohibitory here. At this juncture the brickmakers of the Perth Amboy district began to produce the light shades of brick. Of their ability to produce them they had been a long time aware, and as early as 1867 had placed them experimentally on the market.

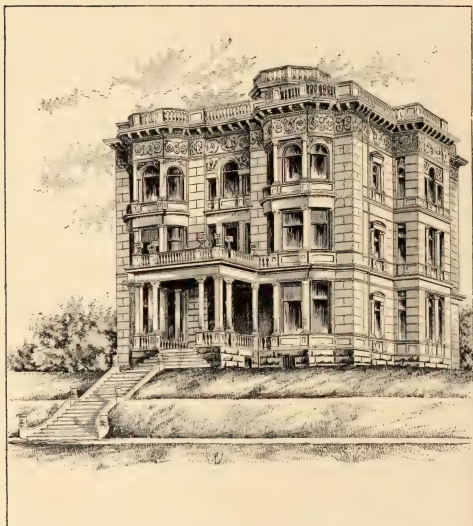
Messrs. Sayre & Fisher it was who furnished as early as 1870 the light brick used in the rotunda of the County Court House. Alfred Hall, also at Perth Amboy, began to manufacture light-colored brick about the same time. About the first example of these brick in exterior walls was in the Post building, in Exchange place, but if the success of the brick had been dependent upon this example they would have failed. The mistake was made of taking the brick from several different makers, some even from Milwaukee. The result was that there was not only a variety of shades, but some were porous and others non-porous, and their varied characteristics are expressed in a variety of shades. The artistic sense finds no fault with this, even the pale green colors that have developed in some of the porous bricks being a welcome touch of color, but the builder looks first for perfect harmony of color in all the brick and after that for its more substantial merits.

It was not until 1883 that these light shades of brick were produced with satisfactory success. In that year and the following the Dakota apartment hotel was built of them, from plans by Architect H. J. Hardenbergh. About \$225,000 were used for the exterior walls and about 280,000 for the court. They were from the yards of Sayre & Fisher. The firm had owned the claybeds from which they were obtained since 1845. For the production of light shades of brick the clay must be free from iron and sulphur. The iron in clay is what produces the red color, and the sulphur the mottled effect. After 1885 the light shades of brick grew rapidly in popularity and were used for all classes of buildings with pleasing effect. They are made now in a variety of shades from perfect

white to dark gray and old gold. Some of the principal buildings built with fronts of light brick are the N. J. Central Building, the Colonial Club, the Manhattan Athletic Club, Hotel Brockholst, Germania Building, Postal Telegraph Building, Madison Square Garden, Hotel Imperial, Holland House, Cable Building, Judge Building, Century Club, Renaissance Hotel, Metropolitan Opera House, Manhattan Life Building, Cotton Exchange, Home Life Building, and many subsequent buildings. The various shades of brick of this class have ranged in price between \$35 and \$70 per thousand. Those in the County Court House were supplied at \$40 per thousand; some old gold colored in the house of Lloyd Phoenix on 33d street, near Madison avenue, built in 1882, cost \$70 per thousand. Milwaukee brick sold at that time at \$50.

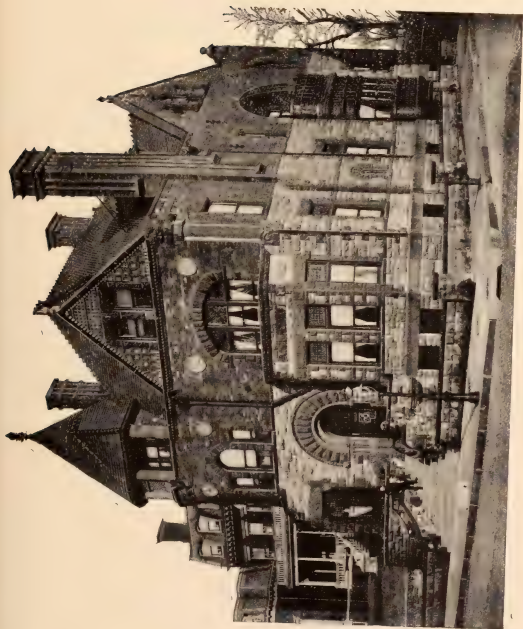
Another important advance in the manufacture of fancy front brick was scored early in the '80s. This was in the production of semi-vitrified brick of mottled brown shades, locally known as the Tiffany brick, from having first been employed in the Tiffany chateau at Madison avenue and 72d street. They were moulded in Roman shapes and thoroughly burned. These brick rose immediately into permanent popularity. They were especially preferred for high-class town houses, but were also largely used for mercantile and small office buildings. Those in the Tiffany house cost from \$55 to \$60 per thousand. The same quality and shapes through the larger production and competition can now be had for \$40, and the $1\frac{1}{2} \times 4 \times 12$ in size for \$35 per thousand. These new shades and styles of front brick have grown in popularity until now they occupy first place in the choice of materials for the fronts of many kinds of dwellings, for stores, for small office buildings, for storage warehouses and for institutional buildings. They answer better than any kind of stone the requirements of fire-proof construction, and blend nicely, in their various shades, with all the shades of stone, terra cotta and granite used.

But more important still, perhaps, than the fancy front bricks, has been the development of architectural terra cotta. It is not at all improbable that this will be considered the greatest among the improvements in materials of construction during the quarter



FOSTER RESIDENCE.

Riverside Drive and 102d Street.



Riverside Drive and 108th Street.

RESIDENCE.
(1880.)

Frank Freeman, Architect.

century. Terra cotta, painted in imitation of stone, was used on the Trinity building as early as 1853; but architectural terra cotta, as such, and not intended to be an imitation of any other structural material, but dependent for its acceptance solely upon its individual merits, did not come into use in this city until 1877, nearly a quarter of a century later. Then it was employed by George B. Post for the front of a handsome residence, in 36th street, near Madison avenue. But the example of terra cotta work in that building has not been repeated. In that instance the blocks were moulded square and partially dried, and then the designs were engraved upon them by hand with wooden tools; then they were fired. Exclusive designs might still be produced in this manner, and doubtless the work would look more like sculpture than do the conventional designs produced ever since by the plastic process. Terra cotta is produced in all shades from white to buff, drab and red, and is moulded in all forms desired for ornamental structural work. (See Chapter: Architectural Terra Cotta.)

Next at least in importance among the materials of high-class construction to come into existence and use in this period are the hollow bricks and terra cotta lumber intended for fire-proof floor and wall construction. They are made in a variety of shapes, suitable for the various forms and sizes of buildings and openings they are intended to accommodate. By their aid flat-floor arches have been made possible and partition walls that occupy less space than was possible with even the slightest of studding or brick-work before. The hollow brick began to be employed in the early '70s, being first used in the Post Office building, but they were used in nearly every strictly fire-proof building in a few years thereafter. The terra cotta lumber, or porous terra cotta that is produced by mixing sawdust with the clay of which the blocks and slabs are made, the sawdust being consumed in the firing and leaving a porous fire-proof slab, which may be sawed, chiseled and nailed like lumber, did not come into use until about eight years ago. It has been employed very extensively ever since wherever light fire-proof partitions were wanted, and for floor arches instead of hard burnt clay.

Cements and Plaster.

Of only less interest to the architect and builder are the great improvements which have been made in the manufacture of cement sand plasters. The increased demand for hydraulic cements that followed sharp upon the building boom of 1871-72 and 1873 stimulated the manufacture of cements in this country, and they began to be produced in considerable variety and large quantity. Up to the time mentioned nearly all the cement used had been imported, but the domestic article was so greatly improved and the foreign article was suffered to degenerate so about this time that the order was soon reversed and by far the greater amount used was of domestic manufacture. It is not even now claimed that America produces as good cements as are made in some parts of Europe, but it is maintained that the domestic product has been greatly improved of late and answers the requirements of all except some kinds of exposed work, where smooth, hard, durable surfaces are required. In like manner the plasters have been improved upon to such an extent that they form a new reliance for protection against fire, and when applied on any of the many forms of expanded metal or other fire-proof lath do certainly operate to prevent the spread of fire. They also make harder and better looking walls than the common stucco plasters.

Plaster boards made in various forms, some of which are intended as a substitute for lath and may be nailed directly to the studding, and can be fully finished with a rough and a smooth coat of plaster, have found a large market.

Cement floor fillings between iron beams, as a substitute for the heavier arches of brick and burnt clay blocks, in a variety of novel forms, such as the Roebling, the Metropolitan, the Columbian and the expanded metal systems, have been used in many recent buildings, including some of the largest and highest ones.

Plumbing.

Sanitary plumbing is also one of the achievements of this period. At its beginning but little thought was given to the subject, and as



Riverside Drive and 108th Street.

RESIDENCE.
(1889.)

Frank Freeman, Architect.

with most other reforms the pioneers gained little save personal satisfaction from their work. But after a time the sanitary sentiment that had long been prevalent among the physicians and the cultured laity was organized in a Board of Health, and what had been everybody's business and, therefore, nobody's business, became the business of this board. Thereafter the public took up the study of sanitation in house drainage through the newspapers, magazines and public lectures, and those who were wise quickly learned the relation between typhoid, pneumonia and other malarial diseases and bad drainage. Regulations by the Health Board found popular support and plumbers began to vie with each other in producing the most scientific and artistic house plumbing. The best work found the readiest support from the public and the plumber's craft became one of the most profitable and important among the building trades. The use of iron instead of lead pipes, the trapping and ventilation of all waste pipes, the adoption of the cistern for flushing out closets, the use of marble, porcelain, crockery and enameled bath-tubs, lavatories and sinks and the exposed system of pipes are the achievements of this quarter century. The craft has become an industrial art and it is difficult to see in what direction it will be possible to find occasion for further improvement.

Interior Finish.

In no wise inferior to structural advances and improvements in the materials of construction, if not superior to them, have been the advances and improvements in the materials and art of interior finish and decoration of all sorts of buildings. First to make itself manifest was the universal concession to the new idea of æsthetic environments of which Oscar Wilde was the prophet. Home decoration became a popular fad and ran to ludicrous excess, but out of it all grew a vital art sentiment, whose chief expression was manifested in the rejection of gloomy massive, plain walls and trim, and the adoption of light, decorative hangings and mouldings. Black walnut gave way to the lighter colored woods, and these were polished so as to develop the beauties of the natural grain. Red and white mahogany, quartered oak, birds-eye and



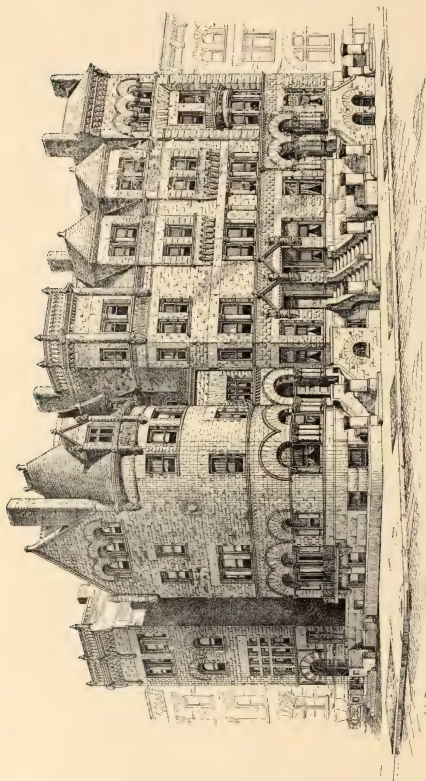
RESIDENCES FOR W. W. ASTOR.

N. E. Cor. Fifth Avenue and 56th Street. (1898.)

Clinton & Russell, Architects.

plain maple, cherry, hazel, sycamore, ash, birch, box, poplar, chestnut and the other native hardwoods, have been used almost universally since 1878-79, and where pine has been used it has also been finished to show the natural grain.

The manner in which these woods have been used has also undergone very great changes. At the beginning of this period the carpenter and joiner were all-sufficient for the finishing of any interior. They received the mouldings direct from the mill and cut, framed and built up the base, door and window trim, the staircases, vestibules and such little wainscoting as was used: Everything was plain, and richness was expressed in massiveness and multiplication of the mouldings. With the use of the hardwoods, however, came the cabinet-maker into alliance with the building trades. Wainscoting came into use for halls and dining-rooms; paneled walls and ceilings were required for vestibules, halls and some dining rooms; marble and slate mantels gave way to mantels of hardwood to match the trim; sideboards were built into dining-rooms, parquette floors were required for main halls, dining-rooms and bath-rooms; fret-work and scroll work arches were hung from the ceilings over staircases and between parlors and music-rooms; book-cases were built into the libraries; boudoir dressing-saloons, with the most sumptuous cabinet trim that could be devised, became the indispensable adjuncts of all high-class houses; the ceremonial dining-room took the place of the back parlor, and then an elaborately-trimmed butler's pantry became a necessary adjunct of every New York town house. In office construction the requirements were simpler, of course, but the trim was not less sumptuous, and in most of the retail stores the art of the cabinet-maker was made manifest wherever possible. This artisan is a shop workman. The plans of the architect for the wood decoration of a dwelling, office or store, a church, public building or hall, are turned over to him, to be executed in given kinds of wood. He puts them together in sections of various sizes, ready to put in place. Then the wood finisher takes hold of them, and with his gums, his oils, his varnishes, his pumice stone, his rubbing implements and his strong arms, puts upon them a polish through



• Lamb and Rich Architects •

• Corner Seventy-second St.
West End Avenue •

which the natural beauties of line and form and color appear like pictures. It is the carpenter's business to put this finished work into place, and generally he is capable of it; but sometimes, as in the laying of parquette floors, the fitting of timbered and paneled ceilings and walls, the construction of buffets, mantels and arches, it becomes necessary to call in the cabinet-maker. Then an anomaly in trades-unionism appears. The cabinet-maker, though a higher artisan, has not yet been able to win the rate of wages and the short day of which the carpenter is the beneficiary, and when he invades the carpenter's field of endeavor either he passes for a carpenter and receives carpenter's pay—or there is a strike. In 1891 the cabinet-makers struck for the third time for an eight-hour day and higher wages, but after hanging out for five months at a loss to themselves of over half a million in wages, and to the builders of a still larger sum in delayed work, interest and lost opportunities, they had to yield again to their employers.

Interior iron work for inclosing elevator shafts, for railings on stairs, and for window and door grilles improved in design and finish under the general demand for elaborate treatment in every part of the structures erected fairly without regard to total cost. (See Chapter: Ornamental Iron Work.)

Part of the æsthetic movement out of which grew this development of artistic interior construction and finish, consisted in the manufacture and application of wall hangings. The finer papers were at the beginning of this period imported, chiefly from France and Germany. The domestic manufacture was in its veriest infancy, and the product was of the simpler and cheaper qualities and patterns. Even of these the designs were copied from foreign patterns. It was in 1869-70 that two of the factories had their beginnings in this city, which are now the largest in their lines in this country. The industry has grown to very great proportions, and has assisted greatly in fostering and supporting native schools of art and design. Out of it also has grown the interior decorator. He is an artist artisan, whose counsel is sought by everybody and whose work is never too highly compensated. He will take your house fresh from the builder and select the hangings and tapestries,

the carpets and furniture, all to harmonize, and hand over to you a domestic retreat, as perfect a composition in form, style and color as a Parisian Easter hat.

The developments and achievements here enumerated, including the perfection of the passenger elevator; the hollow brick interior construction; the renaissance of architectural terra cotta; the manufacture and use of light-colored and mottled brick; the evolution of sanitary plumbing and drainage; the application of natural woods, lincrusta walton, marbles, tiles and plasters and ornamental iron work to the interior finish of buildings, and the steel skeleton construction are the accomplishments of the past period of only a little more than twenty-five years.

Electricity.

This review would hardly be properly comprehensive without a reference to the important achievements of electric science in the period reviewed. Like all other great inventions, it has had its chief support from the large centres of population. New York city has dealt very liberally with the electricians. The first achievements of the science found here the financial backing which made them practical and gave them to the world. It was at the very beginning of this period that Cyrus Field, aided by all the world, celebrated the successful completion of his Atlantic cable. Since then have arisen Gray and Bell and Edison, and the arc lamp, the incandescent lamp, the telephone, the phonograph and the electric power and traction systems have become practical facts. Our big buildings are made light as day by the electric light; offices are placed within speaking distance of distant factories and shops by the telephone, and elevators, street cars and ventilating fans are operated by the noiseless, colorless, odorless, intangible and mysterious power. The effect upon construction it is difficult to overestimate. It has made available the darkest recess of every building; it has enabled the manufacturer and merchant to concentrate the office parts of their establishments in attractive, healthful office buildings and still maintain direct and easy communication with their distant warerooms and factories, and it has provided a

new and rapid and inoffensive system of street travel, by which the possible field of operations of the individual has been vastly enlarged. Thus office buildings have come more in demand and all their rooms have been made available; trades have concentrated in their respective localities, and communication has been rendered easy. In other words, the use of property in every direction has been greatly enhanced by the electric inventions of this period. Unless the acme of achievement in this direction has been reached, which it is impossible to believe, the marvels of imagination will be eclipsed by the accomplishments of another quarter of a century.

The Builder.

A necessary result of all this development and elaboration of materials and methods of construction has been the specialization of the building trades. Twenty-five years ago our builder was an "all-round man," capable of handling almost any kind of a structure from the digging of the foundations to the papering of the walls. And beyond the few buildings of the French style that had been constructed during the few previous years, and some of the larger churches, there was nothing in the existing systems of construction to call for more than average mechanical skill. Not so now. There is no such thing as an "all-around man" among the building trades now. We have in his place the "Captain of Industry," perhaps the nearest approach to him, but the "Captain of Industry" does not himself build, but directs the army of specialists who work under him. Even the architect is no longer alone at the head of the science of construction. The new problems, new and relatively gigantic works of construction; new materials and new requirements have developed a new class of experts in the Engineer of Construction. The most experienced architects recognize in the engineer who is versed in the problems of iron construction a valuable ally; one whose assistance insures safety and economy of construction, where, in some examples known of all architects, the art and science of the architect have been insufficient. Sub-contracting has become universal. The builder of a row of dwellings will let in separate contracts the excavating, the foundation and brick

work, the stone work, the plumbing and gas-fitting and electric wiring, the carpenter work, the lathing, the cabinet work, the concreting of cellars and areas and sidewalks, the furnace or steam heating and piping, the plastering, the glazing, the painting and the roofing. After he sells a house the buyer will contract for the papering and decorating. On office and other large buildings of fire-proof construction, besides all the foregoing, the following specialists are likely to be employed; the housesmith, the marble worker, the tile setter, the sanitary engineer, the electrical contractor, the fireproofing contractor, the elevator builder, the vault-light and skylight contractor, the tank builder and the stained glass worker. In addition to this the mason often sub-divides his work, letting sub-contracts for the foundation work, the rough brick work and the front brick work. The stone contractor sub-contracts the carving. The plumber sub-contracts the baths and closets. And the roofer and iron worker "job" out parts of their work. It is the task of the architect to lay out his work so that all these workmen can labor together or in their proper order in harmony; and of the Captain of Industry to mass these sub-contracts into one, and so direct the work of each that all shall at last result in the finished structure, the materialization of the architects' plans. Many of the larger buildings have been constructed by these master builders, or "Captains of Industry" upon a percentage of the gross cost, the master builder undertaking for his part to stand with relation to all the sub-contractors and his own workmen in the place of the owner. This fact shows to what dignity and responsibility the craft of the master builder has attained in the period in which we have reviewed his work.

LEADING BUILDING MATERIAL FIRMS.

The Architectural Sheet Metal Works.

The Architectural Sheet Metal Works, of which Mr. M. F. Westergren is the proprietor, are located in a handsome five story building, 65x100, with commodious yards in the rear in East 144th street. In the plant are manufactured anything used in the building trade made of sheet metal. This embraces particular designs of cornices, ornamental designs stamped in sheet metal for the decoration of buildings, metallic skylights, roofing, fire-proof doors, window shutters, partitions and all classes of corrugated iron work generally. The business owes its inception to Mr. Westergren, who with two partners, started in a modest way, with moderate capital about ten years ago. Mr. Westergren was an experienced and capable workman. He was possessed of all the qualities essential and necessary to a business career. He is both energetic and progressive, and the history of the success of his business brings out strikingly the influence of his progressive tendencies and his energetic application to business. One of the partners retired shortly afterward the establishment of the business and the other died a few years ago. During the first decade undergone by this concern the equipment of the plant has changed wonderfully. From the few rather crude machines which it possessed at the outset, it has become the best equipped shop, not only in the metropolitan district, but in this country. Some of the machines which have facilitated and improved the manufacturing of corrugated iron and other articles in this line have been invented by this concern. Mr. Westergren, always progressive, recognized the utility of improved machinery and was always ready to test the improvement. Among the machines used in the plant is a large sheet metal press, the largest of its kind in existence. It is eighteen feet in length over all, weighs twenty-five tons, and is capable of exerting a pressure of three hundred tons. It enables the operators to bend sheet metal in lengths of thirteen feet. This machine is but a type of the general equipment of the plant.

There is no question but that a plant possessing the latest and improved machinery, operated by skilled mechanics, can turn out the best class of work. This the Architectural Sheet Metal Works have been doing for some years past, and the buildings completed by them stand as references of the best kind. We can publish but a few of the more prominent, which are the Carnegie Music Hall, Metropolitan Club, skylight work on the new Criminal Court House, Siegel-Cooper Building, Cancer Hospital, Decker Building, C. P. Hunt-



THE SHERRY BUILDING.

5th Avenue, corner 44th Street.

McKim, Mead & White, Architects.

(1898.)

ington's conservatory, interior and exterior sheet copper work in the Sherry Building, cornices and sheet metal work of Mills House, No. 2, the public schools in Rivington and Hester streets, and the sheet metal covering of many of the piers along the North and East Rivers.

When the firm concluded to build some years ago, on account of the great growth of their trade they selected the present site in Nos. 433, 435 and 437 East 144th street as being a most suitable one. The building was so constructed that all the requirements of a sheet metal establishment were fulfilled. One of the features of the plant is a large elevator capable of lifting a loaded truck from the street to any floor, loading and unloading whatever is wanted.

Atlas Cement Company.

Among the manufacturers and producers of high grade cement in this country, the Atlas Cement Company, of No. 143 Liberty street, stand, pre-eminent, by reason of the superior quality of cement manufactured. Their product has been used by the prominent builders in New York and other large cities, and they have given the Atlas Portland Cement their unqualified endorsement. In impartial and unbiased tests made it has been found that its tensile strength is greater than that of any other cement, domestic or imported. It has been used not only in the construction of important edifices, but also in lighthouse work, both submarine and terrestrial, in the construction of docks and bulkheads, and by railroads for various purposes in preference to imported cements.

For many years it was considered that the German and other foreign cements were superior to any American product. Such may have been the case, but the statement can be no longer admitted in truth. The Atlas Cement Company have by their own efforts placed on the market a brand of cement, the quality of which has been endorsed by the large users to be the equal of any and superior to a majority of imported cements. The company was organized in 1889, and the mills at Copley, Pa., and Northampton, Pa., were equipped with improved machinery. The quality of the cement already well known to the engineering and building world was brought more prominently into notice. The capacity of the mills, however, soon became unequal to the demand, and despite the constantly increased facilities, the supply has remained unequal to the demand. The company intend to increase their present capacity of 3,500 barrels per day to that of 10,000 barrels; this will be accomplished within 12 months. A partial list of the important buildings in which the Atlas cement was used is as follows: St. Paul Building, George B. Post, architect; Havemeyer Stores, George B. Post; Equitable Life Building, George B. Post; New York Life Building, McKim, Mead & White; Sherry Building, McKim, Mead & White; Townsend Building, C. W. L. Eidlitz; Fidelity and Casualty Build-

ing, C. W. L. Eidlitz; American Surety Building, Bruce Price; Presbyterian Building, J. B. Baker; Bank of Commerce Building, J. B. Baker; Gillender Building, Berg & Clark; New York Central railroad bridge over the Harlem River; Arbuckle Sugar Refinery, Brooklyn, Newhall Engineering Company, engineers; Power House Edison Electric Light Company, Brooklyn. To the above list of architects, the engineers who are large users of the Atlas Portland Cement embrace the foremost in the United States.

The officers of the company are J. R. Maxwell, president; J. F. de Navarro, vice-president; A. de Navarro, second vice-president; Howard W. Maxwell, treasurer; Henry Graves, Jr., secretary.

Booth Brothers and Hurricane Isle Granite Co.

The Booth Brothers and the Hurricane Isle Granite companies were two of the largest granite manufacturing concerns in the country previous to 1891, when in that year the two companies were consolidated and incorporated as one company under New York State laws. The officers of the new company are: William Booth, President; Charles Mitchell, Treasurer; W. S. White, formerly general manager of the Hurricane Isle Granite Company, Secretary and Eastern General Manager. The output of the quarries embrace all the different colors which have been in greatest demand and many of the quarries are so well known among the trade that they have given their name to the output. The quarries are all located in Maine with the exception of that wherein "Connecticut White" granite is quarried; it is located in Waterford, Connecticut. A list of the other quarries with their names and location is as follows: The famous Hurricane Isle granite is quarried in Knox county; the steel blue "Long Cove," so admired in monuments, is quarried at Tenant's Harbor; "Atlantic" at St. George; "State Point" at St. George; "Granite Island" at Vinal Haven; "Pequoit" at Vinal Haven; the rich "Jonesboro Red" at Jonesboro; "Jonesport Red" at Jonesport.

All the main quarries of this company have been in course of operation ever since the granite industry in America began to assume definite proportions. The history of its growth is in brief the history of the rise and rapid development of the Booth Brothers and the Hurricane Isle Granite Co. Any architect, when interviewed as to the reason why he specifies the output of that company's quarries, will state that as they have been the longest in process of operation they are unquestionably the best. There need be no delay in the course of manufacture, as the company possesses every facility to obtain dispatch and the workmanship displayed is of the best type. As an example of the progressiveness of this firm it may be mentioned that the first locomotive derrick ever brought into this country was first used in one of the yards of the company. It was manufactured in Scotland, but at the present time all the travelling cranes used

in their yard are now manufactured in this country. The cost of working granite was, up to the past few years, so great that it was the great drawback to its more general use. The advanced development of machinery and devices for its manufacture, many of which owe their introduction and consequent improvement to this company, have, however, greatly reduced the cost. As a result a mere glance at the structures now being erected in many of the large American cities reveals the facts that granite is being extensively used, especially among commercial buildings, to obtain that solid, substantial appearance the use of granite gives. In New York, the Empire Building, the most massive office building in the world, is being constructed of granite. The Betz Building, in Philadelphia, near the City Hall, is an example of the output of the quarries of this company. In St. Louis, granite is used in the Post Office and Custom House, a most substantial looking building. The Booth Bros. and Hurricane Isle Granite Company also covers all branches of monumental work; the Goldenberg and Rothschild mausoleums in New Union Field, L. I., are examples of that class of work. The New York yard and works are located in 137th street and Madison avenue. The principal office is located in No. 207 Broadway.

Bradley & Currier Co.

In 1867, Edwin A. Bradley and George C. Currier formed the firm of Bradley & Currier, and established their business at 44 Dey street. They at once took position in the front rank of manufacturers and dealers in doors, windows, blinds, mouldings and building materials generally. Their business so increased that they acquired additional stores until they occupied five entire buildings. It must be recorded that to these men more than to all others is due the credit of the development of the trim business in New York. In 1885 was organized the Bradley & Currier Co., Limited, with a capital of \$100,000, and in 1886, to obtain the necessary facilities for doing their constantly increasing business, they moved to the premises, corner of Hudson and Spring streets, where they remained until 1897, when they established their office and showroom in a more accessible location in 23d street, near Sixth avenue. Here they have the finest showroom in the world, and visitors, whether prospective buyers or not, are cordially welcomed and shown through the establishment.

In 1897, a reorganization was made under the title of Bradley & Currier Co., with a capital of \$200,000.

The company has, until recently, made the manufacture of doors, sashes, blinds and cabinet trim the principal part of their business, but as they have developed the manufacture of wood mantels they are now the largest mantel and tile house in the city. They have a great advantage over all other mantel houses as they manufacture all their goods and can consequently guarantee their quality.

When the new process for fire-proofing wood came to their notice,

after satisfying themselves of the value of the discovery, they at once took a large interest in the Electric Fire-proofing Co., whose plant is situated at the foot of East 19th street. The method employed to make the wood fire-proof is its infusion with a chemical solution which renders it absolutely non-combustible. The woodwork and cabinetwork in the Dun Building, at the corner of Reade street and Broadway, is treated to this fire-proofing process and was supplied by Bradley & Currier Co.

Their factory at Hudson and Spring streets employs over two hundred men, and is the largest of its kind in the city. Bradley & Currier were, in a sense, pioneers in their line, and were the first to issue a price list for doors, windows, and blinds—a class of goods which, up to that time, had been made exclusively by carpenters.

Robert C. Fisher & Co.

The history of the growth of the marble industry in America is in brief the story of the growth of the firm of Robert C. Fisher & Co., of Nos. 97-103 East Houston street. At present it is the best known marble manufacturing concern in the United States, as it is the oldest; its facilities and equipment for manufacture cannot be excelled; its experience and wealth of knowledge of the different quarries in every marble producing province or Kingdom in Europe and every State in the Union enables this firm to draw the best obtainable from the vast resources. It is unnecessary to use superlative epithets in describing the career and present status of the firm; the work completed under its management is ample evidence of its high merit and its recognized ascendancy over its competitors. The firm was established in 1830 by John T. Fisher and Clinton G. Bird, being known for fifty years under the name of Fisher & Bird. During that time the marble work consisted mostly of monumental work, tiling and mantel work. About five years after the establishment of the firm it had risen to the most prominent position in the trade. Both members of the firm were practical men and the standard of work set by Fisher & Bird soon began to be followed by the trade. In 1860 there was a change in the personnel, but the name remained Fisher & Bird; in 1859 Mr. John T. Fisher died and a year later his partner followed him. The successors were Robert C. Fisher, a son of the founder, and Clinton G. Bird, the elder Mr. Bird's nephew. In 1881 the firm changed to Robert C. Fisher, and in 1888 to Robert C. Fisher & Co., Edward B. Tompkins being admitted in 1893. Robert C. Fisher died and his son, of the same name, was admitted, the style of the firm being the same; in 1893 it again changed to Robert C. Fisher & Co., the firm being composed of Robert C. Fisher and Edward B. Tompkins; the present Mr. Robert C. Fisher is a grandson of the founder of the firm.

In that quarter of a century before the Civil War there was comparatively no fine interior marble work completed in the North.

The South created whatever demand there was and to the North the rich Southerners came to secure the contracts. In New Orleans and Charleston, Fisher & Bird completed at that time what was considered the finest examples of modern marble work in this country in the custom houses of those cities. When the wave of prosperity was felt after the war in the North and New York became the metropolis and center of wealth in the United States, Fisher & Bird still maintained their supremacy, as the firm Robert C. Fisher & Co. continues to do so. Their work is seen from San Francisco to Boston and from Cincinnati to New Orleans. The highest example of modern architectural marble art in this or any other country in the world has been completed by them as the court of Metropolitan Life Insurance Building, at Madison avenue and 23d street, testifies. The handsome marble interior of the New York Life Building, on Broadway and Leonard street, was also manufactured in the company's works, on Houston street. It is unnecessary to specify any of the private residences which have become famous throughout the United States, the work of which was completed by this firm; suffice to say that the marble work of a great number of important buildings, public and private, has been done under the supervision of this firm.

Goss & Edsall Company.

There is probably no business identified with the building trade which comes so little before the general public, and of which so little is known, as that of the building material supplies. A structure of national repute may be completed, the name of the architect heralded over the country, and the name of the contractor or builder becomes prominent. It is seldom the public inquire as to the sources from which the material used in its construction came. They do not know that just as careful and experienced a management is required in the supplying of the materials as the builder exercises in superintending its construction.

One of the best known of the building material supply companies in this city is that of Goss & Edsall Company, 358-360 West street. Incorporated February 1, 1891, the young company astonished the building trade by the boldness of its well-prepared plans. It had been incorporated hardly a year when it tendered for one of the large insurance companies' office buildings down town. Among the old dealers it was questioned whether a young company could fulfill a large contract, the term of which might extend over a period of two or more years. Goss & Edsall Company, however, was not made up of inexperienced men. Wright D. Goss and William H. Edsall, the leading officers of the company, were well known, and had been prominently identified with the building trades in connection with the old firm of Peck, Martin & Company. The young company secured the contract and carried out each detail with unquestioned

ability. The successful completion of so extensive an operation proved the competency of the new organization to handle any contract however large.

The policy of the company is determined by its President, Wright D. Goss. Mr. Goss is a man of much executive ability and great will power. His individuality at once commands friendship, and to his personal qualities much of the company's success is no doubt due. He is a member of the Building Trades Club, Building Material Exchange, Mechanics' & Traders' Exchange and numerous other organizations. William H. Edsall, Treasurer of the company, manages the financial and office work, and is thoroughly experienced, having been connected with the building material trade for more than twenty years. The other directors in the company are Clayton S. Goss, Willis J. Barto and James G. Robinson.

When the history of the building trade of the last decade shall be written, the name of Goss & Edsall Company will be found to figure in almost every building operation of any prominence. The supplies for such noted structures as the Mutual Life Building, Manhattan Life Building, Central Stores, United States Appraisers' Stores, Hotels Gerard, Savoy and Vendome, Bowling Green Office Building, Syndicate Building (Park Row), Wool Exchange, Cable Building, Tiffany's Manufactories at Forest Hill, N. J., New York Sugar Refinery and Grant's Tomb, were furnished by this corporation. This list of buildings proves that no contract is too large for Goss & Edsall Company to assume, and to guarantee its intelligent handling and satisfactory completion, while the smallest orders in their every detail receive the closest personal and systematic attention. The thorough comprehension of the conditions incident to the conduct of this business, together with the determined purpose to conscientiously and promptly fulfill its every obligation, places this corporation foremost among dealers in masons' building materials.

John P. Kane Company.

It is seldom one finds a career in the mercantile world paralleling that of Mr. John P. Kane, the well-known dealer in masons' building materials. There are no doubt numbers of successful business men in New York who can look back with pride and point to the time when they began their careers as clerks, and probably office-boys in the same establishment in which they now hold the most responsible of positions as heads or partners in the firm. But they are few indeed, who, having risen to that hard-earned position, then suffer by an overwhelming stroke of misfortune the loss of the fortune which they had accumulated by years of faithful work, have then commenced the struggle again, and have risen to an eminence greater in fact than they had previously attained. Such, in brief,



JOHN P. KANE, ESQ.

is the story of Mr. Kane's efforts since his introduction into the keenly competitive mercantile trade of New York.

Mr. John P. Kane is the leading spirit and active manager of the John P. Kane Company, organized and incorporated in 1893 under New York State laws. He was previously connected with the firm of Canda & Kane, the largest mason building material supply dealers in this country. It was formed in 1879, and had grown almost solely through Mr. Kane's efforts from a comparatively insignificant affair to one of almost gigantic proportions with branches in different parts of the metropolitan district. After the commercial panic of 1893, the firm ceased to exist. In November of that year a company was organized and incorporated with Mr. Kane as its manager, and the policy under him was greatly changed. Profiting by his previous experience, Mr. Kane had decided to adopt the principle of buying solely for cash, obtaining thereby all available discounts, and enabling him to sell the consumer at prices which could not be undersold.

A partial list of buildings supplied by this company is probably the best criterion by which one is enabled to judge of the company's business. They are the American Surety Building, Presbyterian Building, United Charities Building, Kennedy Building, New York Life Building, Siegel-Cooper Co.'s store, Carnegie Hall extension, 9th Regiment Armory, American Tract Society Building, the hotels Savoy, Netherlands and Waldorf, the residences of Cornelius Vanderbilt and C. P. Huntington. At present the company are completing the Empire Building and the University Club.

The nature of such a business as the supplying of brick, cements, lime, etc., is such that it requires a great amount of attention, because of its being so full of detail and requiring the utmost attention. Mr. Kane attributes his great success to the fact that he gives his business his unlimited attention, and he imparts an energy to those around him which cannot help but bring the best results.

The storage depots of the company are the largest in New York. They are situated at the foot of East 14th street and 96th street and North River. The main office is located at the northeast corner of 22d streets and Fourth avenue.

Henry Maurer & Son.

There is probably no better known firm in the fire-proof building material trade than the subject of our sketch, Henry Maurer & Son, of No. 420 East 23rd street. Established in 1856, when the tendency to fire-proof buildings was yet in its infancy the firm has grown with the enormous increase in use of the articles manufactured by them, and has in no slight measure aided their growth. The firm, literally speaking, is a pioneer in the manufacture of fire-proof building materials, and many of the great improvements in the hollow tile

and porous terra cotta work have been launched on the market from the plant of this firm after having been duly experimented upon. They have introduced year after year some new feature in fire-proofing which has become standard and is now imitated. One of the best improvements which the firm introduced about three years ago is that of the "Excelsior" end construction flat arch. It not only received the endorsement of all the leading architects and prominent builders, but it is uniformly conceded to be the best system of fire-proofing ever presented to the building trade. By the most severe tests it has been proved that the arch is 25 per cent. lighter and stronger than the old style flat arch; it adds a saving in constructive iron and the distance between the iron beams can be increased.

The works are situated at Maurer, N. J., on Woodbridge Creek and Staten Island Sound. They control large water frontage and dock room, and possess every facility for shipping by either railroad or boat. The plant covers an area of seventy acres, while the clay banks which contain the best quality of fireclay and are practically inexhaustible cover an area of about 500 acres. It may be mentioned that no plaster, cement, lime or ashes are used in the course of manufacturing their many fire-proofing materials. The talent employed, especially in the experimental department, is of the best and most experienced type. In every division of manufacture there is close attention given to details, and it is also attended by intelligent supervision. The members of the firm are experts in regard to the knowledge of the characteristics of different clays. They made it an object early in their career to place on the market the best manufactured articles in their line and they have succeeded. The product of the Maurer, N. J., plant has been used in almost every building of any prominence in New York City and vicinity. Their superiority over the articles manufactured by others is so clearly manifested that architects make a positive specification of their use. The facilities for turning out large contracts are easily equal to the demand and the result has been prompt delivery and excellent service. We can give but a few of the many structures the fire-proof material of which were supplied by this firm. Among the office buildings are the Empire Building, Bank of Commerce, Townsend Building, American Surety Company Building, Astor Building, New York Produce Exchange, Wilks Building, Tower Building, Times Building, Potter Building, and ninety others in New York and surrounding cities. In apartment houses there are the Don Carlos apartments, Navarro apartments, Knickerbocker apartments, Marie Antoinette apartments. In residences the firm has completed those of W. H. Vanderbilt, Fifth avenue and 51st street; Cornelius Vanderbilt, Fifth avenue and 57th street; Henry Villiard, Collis P. Huntington, Whitelaw Reid, Isaac Stern, Peter Doelger and H. H. Cook, all on Fifth avenue. The warehouses, breweries, hospitals, colleges, banks, clubs, theatres, hotels, factories, churches and stores completed by this firm are among the best class of structures in the city.

Otis Brothers & Co.

In a brief sketch of the part played by this company, not only in America but throughout the civilized world, it is possible to deal only in generalities. It is sufficient to say that the rise, development and gradual perfection of standard elevators and hoisting machinery in this country and Europe has been the story of rise and successful career of the Otis Brothers & Company, Potter Building, Park Row.

The founder of the present company was Mr. Elisha G. Otis. In 1867 the present company was incorporated. At that time elevator machinery was beginning to be more largely used, and later, in 1873-74, various scientific and trade journals recommended, without exception, the use of the Otis elevator machinery for the reason of its having reached the highest point of excellence. As years passed and the development of the crude machines of those early days into the much more perfect ones of to-day progressed, the Otis Company succeeded in maintaining this supremacy. During its long career, it holds the proud record of there having been not a life lost by a defect in its elevator machinery. It is now the largest concern in the world manufacturing elevators and hoisting machinery. Its plant is located at Yonkers, where 600 men are daily employed. It has branches and selling agencies in every city in the Union and in all principal cities of the world.

It is safe to say that three-fourths of the elevators used in New York have been manufactured by this company, and those elevators carry daily more passengers than the elevated railroad system.

The continued success of this company is due to the fact that its reliable reputation is world-wide. This reputation was attained by the use of the best grade of material and the best of tested improvements. Of the latter, the Otis Governor Safety Stop is probably the greatest. Their hydraulic elevators have been placed in nearly all the governmental buildings. Hotels, stores and offices advertise the use of the Otis Elevator to their patrons.

Electric elevators were first introduced by this company about nine years ago, and they have now about 1,700 in successful operation in this country and in Europe, and for moderate speeds, especially where they can be operated from electric power lines in the streets, they give very good service. The controlling devices which this company has recently patented and introduced for house elevators are the most perfect of their kind, being automatic in their action so far as stopping the elevator and unlocking the doors are concerned, and making it impossible for an elevator to be moved from the floor at which it is standing until the door is closed, thus doing away entirely with the difficulties which have been heretofore met with by inexperienced persons in safely operating and controlling dwelling house elevators.

The Okonite Company.

The Okonite Company was organized in 1884. The term "Okonite" is the trade term used by the company for the past fourteen years and has become an imprint, signifying excellence in the articles which bear that name. The company itself has grown to immense proportions and is generally recognized as one of the largest manufacturers of rubber insulated wires and cables of the highest grade for electrical purposes. The managers of the company are Willard L. Candee and H. Durant Cheever; George T. Mason is General Superintendent and William H. Hodgins, Secretary.

The factory is located at Passaic, where over 200 men are employed. Its capacity exceeds 80,000,000 feet of wire a year, and with facilities and equipment unsurpassed the product of its manufacture is the best that modern skill has yet brought forth. The Paris Exposition of 1889, when the company was established but a short time, recognized the superiority of its submarine cables, telephone cables, and other insulated electrical conductors, and awarded them a gold medal on that account. In this country, and wherever their product has been introduced, practical electricians and electrical experts have endorsed their use, and the record of their use, whether submarine, subterraneous or aerial, has substantiated what the Okonite Company justly assert. The principal ingredient of the Okonite composition which is used as the insulator is fine Para rubber, which, after mixing, is put on the wire or cable by machinery. In some cases the wire or cable is then braided by machinery operated by skilled women operators. The high insulating quality of their product results in the use of less electrical energy, and the well-known durability of the Okonite Company's product further increases its popularity.

The following is a partial list of buildings completed by them in New York and Brooklyn:

Building, 10th street, near University place; addition to Museum of Natural History, New York City; Gillender Building, corner Wall and Nassau streets; the Havemeyer Stores, Prince street and Broadway; E. T. Gerry's stable, in No. 39 East 62d street; Y. M. C. A. Building, 57th street, between 8th and 9th avenues; Gerken Building, Chambers street; St. Ignatius' Church, 84th street and Park avenue; Schermerhorn Building, 96 Broadway; Astor Library, 8th street and Broadway; St. Boniface Building, 5th avenue and 21st street; Western Electric Co. Building, Greenwich and Thames streets, Aurora Grata Building, Madison street and Bedford avenue, Brooklyn; Brooklyn Warehouse and Storage Co., East River, Brooklyn; Church Clubhouse, 85th street and 1st avenue; Commercial Cable Building, Broad street, near Wall; Brooklyn Art Building, Park Plaza, Brooklyn; Queens Insurance Building, northwest corner of Cedar and Williams streets; Horse Exchange, southwest corner of Broadway and 50th street. In addition they have furnished the Pos-

tal Telegraph Cable Co. with the cable running across Great South Bay, a stretch of six miles. The company also supplies other telegraphic companies and all the telephone companies.

William E. Quimby.

The screw pump invented by William E. Quimby and placed on the market in July, 1892, has met with the high approval of architects and engineers in the New York district and elsewhere in the United States and abroad. Mr. W. E. Quimby has his office at 141 Broadway, New York, and has established agencies in San Francisco, Chicago, Buffalo, New Haven, Montreal and in London, England. He is a graduate of Steven's Institute of the class of 1887. Mr. Quimby's energy and business ability have been successfully exercised in securing wide recognition of the remarkable superiority of his unique screw pump. Wherever his house service pumps or his larger pressure pumps for elevator or other uses have been introduced, their advantages in respect of simplicity, durability and efficiency have at once become apparent.

The Quimby screw pump can be successfully used for elevating any fluid under conditions where efficiency is the main requirement and especially where freedom from noise or vibration and a continuous pulseless delivery are demanded. Under such conditions the Quimby screw pump stands pre-eminent, since carefully conducted tests prove that in handling any fluid that can pass through a pump greater economy can be secured with this pump than with any other yet devised. The screws of the Quimby pump operate as a continuous piston, collecting and pushing the fluid from the suction to the discharge in a stream of uniform size. It is a well known law of hydraulics that the less a moving column of water is disturbed and the more nearly the channel through which it flows can be kept of uniform size the less will be the friction encountered and the less will be the power required to keep it in motion. It is self-evident, therefore, that in the Quimby screw pump, wherein the power is continuously exerted in the same direction and wherein the channel is practically of uniform size, the friction is less and the power expended in operation is less than in the case of any form of reciprocating pump, wherein the channels are of varied size, wherein valves are required and wherein power is necessarily exerted in merely reversing the strokes of the plunger. For house service, where noise or vibration are especially objectionable, the Quimby screw pump, by reason of the absence from it of any reciprocating parts or valves, and because of its pulseless delivery, is the only pump now on the market which can be satisfactorily used. Rotating noiselessly at comparatively high speeds, the Quimby screw pump lends itself with peculiar facility to direct connection with an electric motor, with a resulting simplicity and compactness of construction which have given it a wide field of usefulness in the building trades. The ap-

proval which it has received from prominent architects and engineers, both for house service and elevator work, is indicated by the subjoined list of a few of the representative buildings in which the Quimby screw pump is used:

Residence C. P. Huntington, 5th ave. and 57th st., New York; residence T. Wyman Porter, 25 East 56th st., New York; residence Levi P. Morton, 681 Fifth ave., New York; Astor Estate Building, 2 and 4 West 33d st., New York; Livingstone Building, South 5th ave. and 3d st., New York; Kent Estate Building, 28 Union square East, New York; City Hall, Albany, N. Y.; Municipal Building, Brooklyn, N. Y.; First National Bank, Paterson, N. J.; Hotel Cluney, Boston, Mass.; Haddon Hall Hotel, Boston, Mass.; Bank of North America, Chestnut st., Philadelphia; Illinois Eastern Hospital, Kankakee, Ill.; Riverside Trust Co., Riverside, Cal.

John W. Rapp.

After the great Boston and Chicago fires, in the early seventies, there came a sudden realization that the use of inflammable material in building must be done away with. The outcome of this was the beginning of the modern fireproof construction. The greatest source of weakness in a building was the flooring, and to remedy this a number of methods for the construction of this particular portion were put forward. The materials used were non-combustible, and consisted chiefly of iron and brick. With the use of these new materials came a new method of construction—namely, a series of more or less flat arches having their bases in horizontal iron beams, and being covered with brick. In many cases arches built entirely of brick and supported in the same manner as the iron ones were used. Partitions, also, began to be constructed in a fireproof manner. Iron net work superseded lath and the plaster was laid directly on the brick.

A method of floor construction which has come into considerable prominence during the last year or so is that known as the Rapp Patent System of Fireproof Floors. John W. Rapp, the inventor and patentee, established himself in business, some thirteen years ago, at No. 201 East 66th street. He has been in his present office, at No. 315 East 94th street, for the past eight years. At the official test of Mr. Rapp's flooring, made by the Department of Buildings, in October of 1896, it fully justified all the claims of its inventor.

A partial list of the buildings constructed or in course of construction in which the Rapp Patent System of Fireproof Floors has been or is being used includes Hammerstein's Olympia Theatre, the J. S. Lindsay Building, 103 Fifth avenue; the Daiker Apartment House, St. Nicholas avenue and 145th street; the first and second floors of the Don Carlos Apartment; the Hotel Majestic, 72d street and Central Park West; the T. K. White apartment, 118th street and St. Nicholas avenue; the Model Tenements in West 68th and 69th streets, of which Mr. Ernest Flagg was the architect; a warehouse for Weil & Mayer,

at 30 Great Jones street; the First National Bank, Hartford, Conn.; the Old Man's Home, Philadelphia, Pa.; and the Blind Asylum, also in Philadelphia. The agents for John W. Rapp are Moffat & Hewitt, 156 5th avenue, New York City, and F. E. Bailey, Harrison Building, 15th and Market streets, Philadelphia, Pa.

The component parts of the Rapp system of floor construction, which are common to the various forms of floors, are steel T's rolled cold from the flat placed between floor beams, brick laid between these T's and cinder cement concrete grouted and tamped over to the necessary height. The various forms of floor construction in the Rapp system are the arch construction, panelled construction and the segmental brick arch. The latter mode of construction is particularly commended and endorsed by New York architects and builders. It also complies with the New York building laws to the letter. It may be added that the Rapp system in general is remarkable for its adaptability to all circumstances. The fire-proofing of the roof of a building at any angle, of irregular work, domes and upright work can be easily accomplished. One of the recent contracts completed is the seventeen-story building of the Real Estate Trust Co. in Philadelphia.

Richardson-Boydton Company.

It is said the best evidence a manufacturing firm can produce to show real merit in the character of its output, is the favor with which it is received by the people. Judging the Richardson-Boydton Company by this criterion, it appears that the warm air heating furnaces and the cooking ranges manufactured by that company must possess unusual merit, for they have met with unusual favor from the public generally for many years. The reputation of the company has spread to every State in the Union, and there is not a city from New York to San Francisco in which there is not an agent who makes a specialty of the Richardson & Boydton furnace.

The company was established in 1837, and for the past 35 years the offices of the company have been located in Nos. 232 and 234 Water street. In 1882 the company was incorporated, with Mr. H. T. Richardson as its president.

The foundry and shops have, until the past year, been located in Brooklyn, near the Atlantic docks, where they occupied a square of city property. But with the march of success, the company outgrew the former spacious workshops and was compelled to enlarge them greatly at the new site, Dover, N. J. The new factory and yards are fitted with the most modern machinery and are the most extensive of the kind in this country; four of the buildings are each 500 feet long, and about 450 men are employed.

The company does not confine its trade to the manufacturing of hot air furnaces and ranges for metropolitan trade only; its trade has extended to such an extent that its reputation is continental; the

requirements of the Chicago market, the Denver market and the Louisville market have been thoroughly considered by the firm's experts, with the result that the name of the Richardson & Boynton Company is almost as familiar in those cities as in New York. An evidence of the merit of the furnace made for local trade is that architects particularly specify their furnace, and a large portion of the business done in this city is the removing of other makes of furnaces and replacing them with the Richardson & Boynton manufacture; this has been done in scores of cases, chiefly on account of the inefficiency of the other make of furnace.

There is no doubt but that the success of this company is due in a great measure to the employing of the best possible talent in the matter of design and experience in workmanship. The name "Perfect" is used in case of each article manufactured, whether it is a furnace or a cooking range; it is registered and is used as a safeguard against imitations.

The other officers of the company are A. P. Richardson, Vice-President; D. S. Richardson, Treasurer; F. B. Richardson, Secretary.

John H. Shipway & Brother.

The advances made in marble working in this country during the past quarter century have been phenomenal. Before the civil war whatever marble was manufactured in the North was mainly on the contracts of Southern clients. With the great increase in demand from all parts of the Union after the war closed came a demand for increased facilities. Young but enterprising firms sprang into existence and met with such a measure of success that astonished firms who had been doing business for many years. The enterprise and progressive genius of the younger firms equipped their plants with more modern machinery, adding dispatch to the high quality of work done. First among the marble working firms in New York who have attained a prominence not merely local, but national, is that of John H. Shipway & Brother, whose mills, office and wharf are located at 136th street, near the East River. The firm is composed of John H. Shipway, Charles M. Shipway, Robert H. Reid and Peter J. Conlon.

The plant of the Shipway firm is the largest and best equipped in the country and it is generally regarded as having no superior in equipment or completeness in the world. Particular attention has been given to modern machinery for marble working, for Mr. John H. Shipway is not only an expert in that particular line, but has invented and patented machines for improved marble working. The plant covers an area of seventeen city lots, having a deep water bulkhead with a depth of water sufficient to moor the heaviest draught ocean steamship afloat. The firm in this respect possesses facilities and advantages for dispatch in receiving cargoes and shipping that no other metropolitan firm has. Cargoes imported from

European countries can be received at the wharf and in a few minutes, if necessary, the process of manufacturing the rough marble can be begun in the factory. The latter is a three-story modern brick factory building, the first and second floors of which are devoted to the manufacture and polishing of marble. The third floor is reserved for the mosaic workers exclusively. In this branch of their industry, John H. Shipway & Brother undoubtedly occupy a prominent position in the front rank of mosaic workers. In the scope of business done in mosaics, and the quality of workmanship, the firm is not excelled by any American concern. They are the inventors and sole users of an electric polishing machine for working marble and onyx. A portable electric rubbing machine for polishing the surfaces of marble and mosaic floors in buildings is also an example of the progressiveness of the firm. The following is but a partial list of the buildings completed. Standard Oil Building, St. Paul Building, Lord's Court Building, Mutual Reserve Life Fund Building, Produce Exchange Annex, Mail and Express Building, Sampson Building, New York Clearing House, Central National Bank Building, Columbia College Gymnasium Building, Science Building, Physics Building; Barnard College, Teachers' College, Manhattan Hotel, Sherry Building, Hoffman House, Buckingham Hotel, Hotel Vendome, Hotel Marlborough, Hotel Regent, Hotel Empire, Yale College Gymnasium, St. Luke's Hospital, Bloomingdale Asylum, Metropolitan Club, Fine Arts Society Building, residences of John H. Inman, J. H. Flagler, R. M. Hoe, J. J. Emery, Dr. Gill Wylie.

Wm. E. Uptegrove & Bro.

A short time ago the newspapers reported the opening of the Chicago & Northwestern Ry. Co.'s offices, at Broadway and Grand street, which took place in the presence of a notable gathering of railroad men. The feature of the offices which received most comment was the rich mahogany trim and appointments. In connection with the account of the opening it was stated that the company proposed, as occasion arose, to refit all its principal places of business throughout the country with mahogany. The choice of this wood for the purpose was not dictated merely by a desire for decorative effect, but chiefly by considerations of economy. The larger part of the cost of woodwork falls to the labor account, and remains the same whether the wood is expensive or inexpensive. The price of raw mahogany is only two-and-a-half times that of quartered oak. On the other hand, mahogany never warps. In other woods, if the finish is marred, the pores fill with dust, and the finish cannot be restored. That of mahogany can be restored by the simple process of refinishing. Mahogany is the only wood which improves in appearance with age. Furthermore, it lends itself to a greater variety of colors in decoration than any other trim. In fact, "no wood possesses like advantages of combined sound-



• AMERICAN-SURETY-COMPANY •

BRUCE PRICE, ARCHITECT
(1894.)

ness, large size, durability, beauty of color, and richness of figure." It is interesting to note that the general introduction of mahogany trim dates from the erection of the Wm. H. Vanderbilt residence in 1880. Its lavish use in this conspicuous instance was promptly imitated in the better class of private houses. About this time also the modern luxurious type of office building came into existence, and it did not require long experimenting to discover that mahogany, with its peculiar fitness for rough service, was the wood par excellence for this class of structures.

The excellent reputation which mahogany enjoys as cabinet wood and trim for public offices, railway coaches, and private houses is due in a large measure to the careful selection of the raw material by the firm of Wm. E. Uptegrove & Bro., Nos. 457 to 475 East 10th street, the largest dealers in imported hardwoods in the country, for such architecturally notable buildings as the Wm. H. Vanderbilt mansion, the American Surety, the Mutual Life, and the Standard Oil Buildings, as also for the Wagner Parlor Car Co.'s famous coaches.

Gillis & Geoghegan.

Established in 1866, the firm of Gillis & Geoghegan, of No. 537 West Broadway, has sustained a reputation of unquestioned superiority in the manufacture of steam and hot water heating and ventilating apparatus, not only in this city, but throughout the entire country. This fact has been established time and again by the repeated orders from the large building estates, corporations and private investors testifying in a manner to the superior merit of the appliances manufactured by Gillis & Geoghegan. The firm has also erected a large number of important steam heating plants in all parts of the West and South, including plants in large buildings in Memphis, Galveston, St. Paul and Kansas City.

In New York very many buildings of importance, both public and private, are heated and ventilated by apparatus manufactured by this firm. It holds the unique position of standing so far ahead of its competitors that it largely controls the desirable class of trade in the metropolitan districts. Some of the more important buildings treated by this firm are the immense Astoria Hotel, the Manhattan Life Building, Empire Building, St. Patrick's Cathedral, Hotel Netherland, Plaza Hotel, Broadway Theatre, Presbyterian Hospital, John Jacob Astor's handsome residence, Catholic Club, Stern Bros.' store.

Patterson Brothers.

The birth of the greater city of New York marks the fiftieth anniversary of the establishment of the hardware business of that well-known and reliable firm, Patterson Brothers, of No. 27 Park row. It was established on the Bowery fifty years ago, and ten years later, the building having been destroyed by fire, it was re-established in

its present location. It was conducted by William Turner, Edgar C. and Henry A. (brothers), until 1878, when William Turner withdrew, and was succeeded by M. C. Kellogg. It was incorporated in 1884. At present the members of the firm are Edgar C. Patterson—the surviving brother—Minot C. Kellogg, David J. Tingley, Denis Nunan, Edward Stagg, Robert N. Brundage and Milliard F. Griffiths, the six last mentioned having been identified with the business from twenty to forty years. They are men of high character and of recognized ability in their various departments, and, together, form a strong business combination. Their credit has ever been maintained even in periods of greatest depression. They are reputed to carry the best assortment of miscellaneous hardware, adapted to the wants of everyone, of any retail house in the world. Their sales range from a few cents to hundreds of dollars. Their builders' hardware is found in many of the largest office buildings, and in nearly every prominent building in New York, besides thousands of residences in city and country. Their telegraphic supplies are used from New York to San Francisco; all railroads coming to this city have dealt and continue to deal with them, and their shipments are consigned to nearly every part of the civilized world. Their customers include every class of mechanics, contractors, corporations and individuals.

David Shuldiner.

Among the prominent and successful dealers in glass in this city, Mr. David Shuldiner, of No. 961 Sixth avenue, unquestionably ranks among the first. Mr. Shuldiner is one of the largest local dealers in polished plate glass, French and American window glasses and mirror plates. He has entered into competition for the glazing work of some of the largest structures ever completed in this city, and in all cases where the architect or owner requires high class work rather than extreme cheapness it is found that Mr. Shuldiner has been successful. In many of the large office and mercantile buildings on Broadway and in the lower section of the city now in course of construction and completed will be found examples of his ability as a glazier.

Mr. Shuldiner learned his trade in St. Petersburg, studying under the tutelage of his father, who was a glazier merchant in that city. When he came to this country he saw it was necessary to study American styles and methods, and he entered the ranks of journeymen glaziers. In 1889, having mastered his craft, he established himself in business in an office in No. 947 Sixth avenue. By his strict attention to business and its detailed promptness in deliveries and in completion of contracts, together with high-class workmanship in their execution, Mr. Shuldiner has long since made his venture a pronounced success. In 1893 he was compelled to open a branch in No. 134 West 54th street, and a year later he again found it

necessary to enlarge, this time opening what is now his main office, in No. 961 Sixth avenue. Mr. Shuldiner's success is due in a great measure to his firm belief in the principle that it is more advantageous to do a large amount of work at a small percentage of profit than doing little work at a large profit. Mr. Shuldiner's contracts embrace all kinds of glazier work, from the decoration of a residence to the inserting of window glass. Some of his more important contracts are the New York Life Insurance Building, Mills Hotel, Washington Life Insurance Building, Western National Bank, Lord's Court Building, Manhattan Savings Bank, Woodbridge Building, American Lithograph Co.'s Building, Weil and Meyer's block of stores, between Prince and Houston streets, University Church, 54th street and 5th avenue, besides a large number of private residences in the Fifth avenue district, and buildings in the mercantile sections of the city.

Henry Steeger.

The pioneer firm in copper plumbing work in this city is that of Henry Steeger, who is now located at No. 143 East 31st street. The early reputation which this firm acquired for sterling merit in all articles it manufactured has been maintained, and the imprint of the stamp of Mr. Steeger is a warrant for genuineness that none can gainsay. The firm was established in 1851 by Mr. Steeger's father, who had learned the trade of a coppersmith in Germany. At that time comparatively little copper was used in this country, but people were beginning to become aware of its superiority in appearance, especially in plumbing materials. The plant of the first Mr. Steeger was situated in a basement on 3rd avenue, between 17th and 18th streets. The thorough workmanship exhibited in all his articles of manufacture, together with the fact that he never deceived the public, rapidly acquired for him an extensive trade. Several times he moved to enlarged premises to accommodate the rapidly growing trade, and each time he found himself cramped for space. Finally he erected a plant at the present address, which has proved adequate. Mr. Steeger, who learned the trade with his father, has kept pace with the great strides taken in all lines of manufactured goods during the past decade, and it can be truthfully said that the best class of trade in New York seeks him rather than vice versa; he has completed large contracts for all the wealthy metropolitan families, and there is hardly a large structure erected in this vicinity in which the copper work has not come from the workshop of Henry Steeger.

Whittier Machine Co.

The Whittier Machine Company, of Boston, have for many years enjoyed the reputation of manufacturing one of the best class of elevators on the market. Every year there have been improvements in the hydraulic or electric elevators that have been introduced by

the Whittier Machine Company with a view of adding to their strength, durability and safety. The company's reputation extends back over forty years, and during that time they have kept pace with the rapid improvements and the enormous growth in demand of both the hydraulic and electric elevators. In New York there are over 100 elevators of the Whittier design in use, and in Boston they are most extensively used. During the whole career of the company there has not been a life lost nor a serious accident resulting from a defect in their machines.

In New York Whittier elevators are used in the Waldorf Hotel, Metropolitan Life Insurance Bldg., Schermerhorn Bldg., Wilks Bldg., Prescott Bldg., Wells Bldg. In Boston the following is a partial list: State House, Court House, City Hall, Exchange Bldg., Tremont Bldg., Touraine Hotel, Bell Telephone Bldg., Exchange Club, Brazer Bldg., Washington Bldg., Houghton & Dutton Bldg., Parker House and Converse Bldg. The Whittier elevators are used in Washington, St. Paul and Chicago. The New York office is located in the Potter Bldg., Park Row.

American Enameled Brick and Tile Co.

This concern has slowly but steadily fought its way to the front in a market flooded with poor domestic imitations of the old English standard glazed brick.

It is to their credit that the English importation has been stopped by the combined quality and price of their output now sold to the old importers of English brick for their trade to the entire exclusion of the imported article.

Where other manufacturers make their enameled brick in departments of larger works, devoted mainly to *other* interests, their whole time and attention are devoted exclusively to the manufacture of Enameled Brick and Tile, and to the filling of very large contracts on time.

The large contracts, which have been placed with them, show the excellent confidence in their ability to fill same.

American Encaustic Tiling Co.

The sanitary features of tiles have made them a necessity wherever non-absorbent floors and walls are looked for, be it in hospitals, be it in office buildings or private residences.

Great progress has been made as regards artistic floor and wall decorations in tiles, which on account of their vitreous body are vastly superior to marble, besides allowing the introduction of a great many more artistic shades and colors than can be obtained in the latter.

The largest tile plant of this country is that of American Encaustic Tiling Co., Ltd., of Zanesville, Ohio, and their ceramic and art mosaic tile floors, as well as their plain, gold, palissy, or hand deco-

rated glazed tiles rank among the finest products ever placed on the market, both here and abroad.

The New York office of this company is in the Townsend Building, 1123 Broadway, northwest corner of 25th street.

Bedford Quarries Co.

To sell Indiana limestone direct to the dealer instead of through a broker was the object which led The Bedford Quarries Company to establish its Eastern Office on January 1, 1897, at No. 1 Madison avenue, New York. The Mutual Reserve Fund, Constable, Hotel Majestic, Presbyterian, Manhattan Hotel and other notable buildings in New York and elsewhere are built of stone from these quarries. The company is the largest producer of Oolitic limestone in the world and furnishes upon application an interesting pamphlet describing the quarries and the manner of producing and shipping the stone. The company also has an office at No. 185 Dearborn street, Chicago, and its quarries are located at Bedford, Ind.

The Boynton Furnace Co.

The name Boynton as applied to furnaces, steam heaters and hot water apparatus has represented to the American people the acme of perfection in that class of goods since Mr. N. A. Boynton began their manufacture in 1849. At present the company is the largest manufacturers of heating apparatus in this country and their trade represents not only the most desirable in this country, but an extensive one in Europe. The Boynton Heating Apparatus is used in the residences of D. O. Mills, W. C. Whitney, F. W. Vanderbilt, Chauncey M. Depew, Russell Sage, J. P. Morgan and Miss Helen Gould besides hundreds of other prominent people.

Fred. Brandt.

Reliable and thorough in all branches of the roofing trade, Mr. Fred. Brandt, of No. 169 East 85th street, has succeeded in maintaining the reputation his father held for fifty years in the same business. As a slate, tin and metal roofer, Mr. Brandt has a long and extensive experience; he employs none but the best class of mechanics and as a result his work cannot be excelled in this or any other city. Mr. Brandt has progressive tendencies. He does not maintain a line of action similar to that he adopted years ago, but is always improving some branch of his business. As an example of this he has secured profitable patents for stationary zinc wash tubs, combinations of bath and wash tubs; besides he has effected a large number of improved devices in cornice, skylight, roofing and sheet metal work.

Michael Caravatta.

Concrete and artificial stone work in our apartment houses, stores, office buildings, factories and stables form no inconsiderable

part of the general contract. The sidewalks, cement flooring, fire-proof arches, pavements and watertight floors in cellars are but leading features in the work. The recognized importance compels the general contractors to permit none but experienced and reliable sub-contractors to do this work.

One of New York's leading concrete and artificial stone contractors is Mr. Michael Caravatta, of No. 239 West 69th street. He learned his trade in Switzerland, where concrete working is carried to a high degree of proficiency. Ten years ago he opened an office in New York and began to contract for concrete work of all descriptions. During this time he has completed many important jobs, a partial list of which is as follows: Concrete work in City Hall; sidewalks and cellars at northwest corner of 26th street and Broadway; sidewalk and watertight cellars for Electrical Exchange Building; sidewalk at corner of Barclay and West streets; entire concrete work at 69th street and Eighth avenue, at 68th street and Eighth avenue, 69th street and Boulevard and 83d street and Riverside Drive; two corners at 101st street and West End avenue, and two corners 43d street and 10th avenue; concrete work at 106th street and Columbus avenue; corner 104th street and Manhattan avenue; block extending from 101st to 102d street, on Manhattan avenue; watertight floors at 30th street, corner 13th avenue, besides innumerable other jobs.

Colwell Lead Co.

Colwell, Shaw & Willard was the firm name when established in 1865. One year later they incorporated as the Colwell, Shaw & Willard Manufacturing Company. In 1873 the name of the corporation was changed to Colwell Lead Company. Their office and factory is now and has been for many years at 63 Centre street, New York, where their old shot tower, near the Tombs, is one of the city's landmarks. They manufacture lead pipe, tin-lined lead pipe, sheet lead, shot, and also carry a complete stock of plumbers' supplies. The officers are B. Frank Hooper, President; Alva S. Walker, Vice-President; George L. Knox, Secretary and Treasurer.

Coppersett Roofing and Paint Co.

The Coppersett Roofing and Paint Co. was established in 1885. They have made a successful specialty of roofing, in iron, tin, slate and felt. But it is as the sole Eastern agents for the famous Alcatraz Asphalt Paint that the company is so widely known among New York builders and architects. The superiority over the metallic paint has been clearly established, so that the municipal departments require it to be used in almost every public building. Two representative contracts which this firm secured are the roofing and the painting of the immense Third avenue power house at Kingsbridge; also the roadbed of the New Third Avenue Bridge.

F. W. Devoe & C. T. Raynolds Co.

This well-known paint house dates back one hundred and forty-four years. It was established in 1754. It undoubtedly occupies the position of being the largest paint manufacturing concern in the United States. It has offices at the corner of Fulton and William streets and employs over seven hundred men in its four factories in New York, Brooklyn, Newark and Chicago. Here in the company's factories are manufactured everything in connection with the paint trade, even to the boxes, barrels and tubes in which they are sold. Its varnish is used by all the great American railroad companies and boat builders.

Dimock & Fink Co.

The Dimock & Fink Co. conducts one of the largest plumbing supply trades in this country. It is an incorporated company with Otis K. Dimock, president; Martin D. Fink, treasurer; A. L. Perkins, secretary. It was originated in 1882 and incorporated in 1896. Its wholesale trade is not only metropolitan, but extends throughout the State of New York and far into the New England States. The main New York office is located in the handsome six-story building in Nos. 220 and 222 East 125th street; and its Jersey City branch at Nos. 283 and 285 Warren street, control the outside trade. One may gain an idea of the magnitude of the company's business in New York alone when it is learned that in the yards at the foot of East 125th street, on an average, 200 tons of pipe are stored. The Jersey City branch office controls a trade as extensive as the New York office.

Dunbar Box & Lumber Co.

The Dunbar Box & Lumber Co., with yards and offices at No. 282 Eleventh avenue, corner 28th street, was incorporated in 1877. Its origin, however, dates back nearly half a century, when Joseph A. Dunbar founded the business. It is one of the prominent New York lumber concerns, its factory and yards covering 33 city lots. Besides maintaining a large stock of lumber and timber, the company are well-known manufacturers of packing boxes, mouldings, floorings, ceiling and all kinds of house trim. They have many times been called upon to furnish the lumber and trim for the most important New York constructions, and have dealt and continue to deal largely with the best class of local builders. Mr. Thomas T. Reid is the president of the company.

The East River Mill and Lumber Co.

The yards and mill of the East River Mill and Lumber Co., located at the foot of 92d and 93d streets, East River, occupy a portion of three blocks in that vicinity, with a dock frontage of one block. The company was established in 1889, with Mr. George H. Troop,

president, and Thomas J. Crombie, secretary-treasurer. In the yards are kept all kinds of rough and dressed lumber, yellow pine flooring and step plank, and every description of lumber and timber used in the erection of dwelling houses. Although not confining its trade to Harlem, Yorkville and West Side builders, yet the company pays special attention to their requirements. It may be mentioned that all the lumber required by the companies constructing underground trolleys was supplied by this company. A well-equipped moulding and planing mill is operated in connection with the yards.

Fordham Stone Renovating Co.

The Fordham Stone Renovating Co., of which Mr. E. A. Moen is the manager, has been established fifteen years. The company, during that time, has cleaned, repaired or painted thousands of brick and stone residences, office and mercantile buildings. The exterior of any building from dome to pavement will under the management of this company be repaired, cleaned or painted in the most efficient manner. It has had a long and varied experience in this line of business, and its reputation, as endorsed by our well-known architects and builders, is a credit to the company that bears it. Among the many buildings renovated with their process are the New York Produce Exchange Building, Hoffman House, Drexel-Morgan Building, St. Cloud Hotel, Albemarle Hotel, Grand Central Hotel, Union League Club, St. Denis Hotel, Bank of New York, and the Western Union Telegraph Co.'s Building. The address is No. 54 William street, and Greenwich Savings Bank.

Church E. Gates & Co.

Among the important lumber concerns who possess a substantial reputation, Church E. Gates & Co. stand prominently in the list. The company operates two yards, one located in 138th street and 4th avenue, where the main office is located, and another yard in Bedford Park. A full supply of hard and soft woods can always be obtained, and of the best quality. The members of the company are Mr. J. F. Steeves, Mr. H. H. Barnard and Mr. B. L. Eaton. These gentlemen, by their business ability and energetic attention to detail, now manage a large trade with builders, particularly Harlem builders, and the retail trade generally throughout the city.

William Hall's Sons.

The general house-trim factory conducted by William Hall's Sons, at 106th street and East River, is one of the largest and most complete in the metropolitan district. It was established by William Hall over 30 years ago, and its gradual growth from the small factory to the present concern testifies in a manner to its reputation for reliable work. The yard and factory occupy 38 city lots, with a frontage of a block on the river. Thomas R. A. Hall and William H. Hall, sons

of the founder of the firm, now carry on the large business. The firm has manufactured the hardwood doors, mouldings and general house-trim for a large number of the big hotels, apartment houses, hospitals, colleges, public institutions and office buildings. The firm employs on an average nearly 400 men.

J. H. Havens & Son.

In the list of well known and reputable lumber firms in this city comes that of J. H. Havens & Son, of No. 825 11th avenue. It has been established for over a quarter of a century and during that time the many carpenter contractors, wood workers and others who have been its patrons recognize that it has maintained a high reputation for honest dealing. In the yards are kept a full stock of soft woods, including spruce and yellow pine timber, and a good grade of hardwoods. The ample sheds enclose the better grades. Mouldings are also kept in stock and the firm possesses the facilities for filling orders on the shortest notice. The yards are situated on the northwest and southwest corners of 56th street and 11th avenue.

George Hayes.

Established in 1868, Mr. George Hayes, of No. 71 Eighth avenue, has been the most prominent manufacturer of metal lathings in this country, and has undoubtedly perfected more appliances for uses in the building art than any other person. The Hayes metal lathings have a wide sale in Canada, Germany, France, Great Britain, and have been introduced in every civilized country. Mr. Hayes is the inventor and patentee of the Hayes Metallic Skylights, and other glazed structures, blinds, architectural, hygienic and mechanical appliances. Over one hundred medals have been awarded him for his inventions. It may be added that the Hayes metal lathings have been used in nearly all the prominent buildings in New York.

Thomas Hill, Jr.

Mr. Thomas Hill, Jr., of No. 81 Pine street and No. 128 Water street, is one of New York's brightest and most promising experts in theoretical electrical knowledge and the practical application of electrical energy. Mr. Hill, although a young man, has been connected with several of the largest metropolitan electrical concerns, in some of which he acted in the capacity of superintendent and foreman of the general electrical construction. In 1896 he opened offices at his present address, and by his thorough knowledge of detail he has succeeded in establishing a growing business. He has wired the Montauk Theater, Brooklyn; Scarboro Mansion, N. Y.; Association Hall, Brooklyn; Pettit Bldgs., N. Y.; St. Peter's Church, Brooklyn. Mr. Hill's laboratory is located in No. 502 Fulton street, Brooklyn. He is not only a student of research, but possesses the faculty of making his researches of practical benefit to himself.

Interior Conduit and Insulation Co.

This company was incorporated in 1890. Briefly stated, the company provides a most complete system of electric wiring, which has never been excelled in America or Europe. The system, the credit of which is mainly due to Edward H. Johnson, president of the company, has received the unqualified endorsement of every leading architect, electrician, insurance inspector and fire underwriter board in the country. Every building of prominence, whether residential, church, office or mercantile, during the last six years has been wired by the Interior Conduit and Insulation Co. The works are located in No. 529 West 34th street, and the main offices in No. 20 Broad street. The officers are Edward Johnson, president; Everett W. Little, vice-president and general manager; Charles P. Geddes, secretary and treasurer.

C. D. Jackson & Co.

C. D. Jackson & Co., importers of all kinds of marble, of No. 1 Madison avenue, are sole representatives and importers of many of the best and most desired marble, which are in vogue to-day.

It is safe to say that all the important American contracts of marble are filled through their hands.

Their specialties are Fabbriotti's C. F. and other best brands of Carrara Marble and Paonazzo Marble.

Blanc P. Marble for statuary and church work; Tyrolean Marble for monuments and exterior finish; Istrian Marble for Altars; besides French, Spanish, Swiss and Belgian marble.

The firm recently secured the contract of Carrara C. F. brand and Old Convent Quarry Siena Marble for the Baltimore Court House, in which 20,000 cubic feet, the largest contract ever given, are required.

V. C. & C. V. King Co.

The well-known plaster manufacturing concern of V. C. & C. V. King Co., of Nos. 509, 511, 513, 515 and 517 West street was established in 1839. In 1876 it was organized as a company, and at the present time the Knickerbocker Plaster Mills, as the works are widely known, are under the management of C. Volney King, President, and Vincent C. King, Jr., Secretary. Calcined plaster, land plaster and ground marble are manufactured, and the quality cannot be surpassed in this or any American city. It has been used in hundreds of the best class of residences and public buildings in the city. The Waldorf-Astoria Hotel is a type of the fine finishing work done by the output of this company.

A. Klaber.

Chief among the high-class marble workers in this city is the well-established firm of A. Klaber, of Nos. 238-244 East 57th street, who has been connected with New York's marble industry since 1859.

He is a thoroughly experienced member of the trade and some of the best class of interior marble and onyx work ever done in New York has been completed under Mr. Klaber's supervision. The Empire and Knickerbocker theatres, two of the best in New York, were completed by him; the natatorium of the New York Athletic Club, the most handsome affair of its kind in the world, was also done by him.

John Lanzer.

The business conducted by Mr. John Lanzer is that of manufacturing sash, doors, blinds, and general trim. It was established in 1875, with his office in No. 2895 Third avenue. Mr. Lanzer operates his factory at Unionport, Westchester, and employs on an average 60 men. Mr. Lanzer's business has grown steadily larger each year, because of the fact that builders of the 23d and 24th Wards, with whom he is intimately acquainted, have learned to rely almost entirely on him on account of the high and excellent class of goods manufactured. Mr. Lanzer carries probably the largest stock of goods of general house trim of any other concern north of the Harlem River. His office and salesroom are located near Third avenue, in No. 660 East 151st street. Mr. Lanzer also possesses facilities for scroll sawing, turning and band sawing.

Anton Larsen.

One of the best known manufacturers of dumb waiters, elevators and refrigerators in this city is Mr. Anton Larsen, of 134th street and Brook avenue. He has been established since 1881, and since that time he has made and patented numerous improvements in the manufacture of refrigerators and dumb waiters, of which he makes a specialty. A device for the circulation of air in refrigerators and an automatic stop in dumb waiters are among the more important of Mr. Larsen's improvements. One hundred of his refrigerators, almost perfect from a sanitary view, have been placed in the Hotel Royalton, the chemical laboratory of the Board of Health Building, the Metropolitan Apartments, a block of handsome residences between 80th and 81st streets on Riverside Drive.

Manhattan Concrete Company.

The Manhattan Concrete Company is an incorporated concern with a capital stock of \$50,000, of which Ross F. Tucker is the president and manager. Its business may be divided into three parts: the fine concrete and ornamental concrete work; fireproof floors, arches and ceilings, and fireproof partitions of iron metal frame, plastered on both sides, the latter being known as the expanded metal system. The company is undoubtedly the most prominent doing that work in this country. As an example of fine concrete work, the colonnades and balustrades of the University of Virginia have



MILLS HOTEL.

Bleecker, Sullivan and Thompson Streets.

(1896.)

Ernest Flagg, Architect.

been completed by this firm; the D. O. Mills Hotel No. 1 was fire-proofed throughout by this firm, also. Their address is 156 Fifth avenue.

Meeker, Carter, Booraem & Co.

The business of this firm has been long established in the trade at their office, 14 East 23rd street. They have there on exhibition large panels of ornamental front brick, enameled brick, paving brick, architectural terra cotta, flue lining and fire clay products manufactured by the largest and best equipped clay plants of New Jersey, Pennsylvania and Ohio, for which they are agents.

Their facilities for quick delivery are unexcelled, as shown by the enormous quantities which they distribute during the year.

Their catalogue shows details of many styles of special designs, colors and shapes manufactured. Among the most recent buildings completed are the University of the City of New York, Gould House, Fordham Heights, Columbia University Buildings, New York Athletic Club; office buildings, R. G. Dun, Cushman Building, Singer Building, 9-15 Maiden lane; warehouses, 56 Bleecker street, 9 to 15 Murray street.

Andrew Mills.

In 1872 Andrew Mills established a stone-cutting yard in Thirty-fourth street. Subsequently, he has been located at Sixtieth street and Eleventh avenue, and for the last fifteen years at the foot of West Fifty-seventh street. At the time of his establishment, Mr. Mills probably had the most complete plant for stone-cutting in New York. Many labor-saving innovations are due to him, principally the introduction of the travelling crane in a stone-yard. Mr. Mills may also be credited with the introduction of eleven new stones in this city. One of these stones, Indiana limestone, has obtained an enormous popularity.

A few of the principal buildings for which Mr. Mills has furnished the stone are the U. S. Army Building, in Whitehall street; the Standard Oil Company's Building, at 26 Broadway; the Murray Hill Hotel, Fortieth street and Fourth avenue; Manhattan Savings Bank, Bleecker street and Broadway; the Boreel Building, at 115 Broadway; the First Baptist Church, Seventy-seventh street and the Boulevard; the Pottier & Stymus Building, in Fifth avenue, between Forty-first and Forty-second streets, and the Liverpool, London & Globe Insurance Co., in William street.

Moen's Asphaltic Cement Co.

Moen's Asphaltic Cement Company, of No. 103 Maiden lane, N. Y., business established in 1854. It has been found that during its long career, that architects have specified their asphaltum and owners, builders and others have adopted their method of rendering cellars, damp basements, vaults, arches, basement floors, etc., watertight and damp-proof. Their reputation for this class of work, to-

gether with the fact that they are the oldest users of asphaltum, makes it clearly evident that they are the most reliable house in the city. Other features of their business being rock asphalt, flooring, brick, tile and gravel roofing. Among the contracts recently completed are those of the Delmonico Building, underground walls of the American Surety Building, water proofing and tile roofing at the Columbia College Buildings.

Moeslein Ceiling Works.

The Moeslein Ceiling Works, of which Valentine Moeslein is the general manager, has been established since 1892. Mr. Moeslein perceived that the tendency toward fire-proofing interiors was becoming stronger each year, and seeing the many advantages of metal ceilings, side walls and wainscoting, he fitted up a complete plant for manufacturing the best class of this work. Mr. Moeslein, being a practical mechanic, is capable to please his customers in designing as well as solving problems in any new construction. He has since invented a device for fastening metal ceilings and sidewalls without wood furrings or the use of nails. He has patents pending for a device by which he will fasten his materials already decorated to walls and coverings by the use of cement; this he hopes will take the place of glass, marble and tile decorations. Mr. Moeslein's trade has grown to such an extent that in addition to a very large local trade, he exports to foreign countries. His address is No. 420 East 48th street.

Morstatt & Son.

The Morstatt blind, manufactured by the firm of Morstatt & Son, of Nos. 227 and 229 West 29th street, is generally recognized as the acme of excellence by builders, architects and owners. The firm has been so long connected with the blind supply trade in New York, and its reputation is so well known that the firm receives support from the best elements of the trade. Besides of superior design, compared with other blinds on the market, the Morstatt blind possesses an unrivalled beauty of finish, and an expert mechanical execution. The product of Morstatt & Son's factory has been used in many prominent public buildings in this city; one of the latest of the large contracts completed by them was the furnishing of the new hotel Astoria, Fifth avenue and 34th street.

James Murtaugh.

The hand-power dumb waiters and elevators manufactured by James Murtaugh have reached a standard of excellence not only in this country but throughout Europe. He is the modern Nestor in his line. Since 1855 he has been placing dumb waiters of such marked superiority on the market that it would be untrue to state he has had competitors. Over 100,000 of his make are now in use in all the prominent hotels, clubs, public and private institutions, apart-

ment houses, residences and hospitals throughout the United States and Europe. Ninety per cent. of the hand-power dumb waiters and elevators in use on Fifth avenue and Murray Hill are of his manufacture. It may be added that Americans in all parts of the world have sent for the Murtaugh dumb waiter when building in foreign countries, and during his long business career there has never been a fatal or serious accident resulting from the use of his hand-power machines. His office is at Nos. 202 and 204 East Forty-second street.

Augustus Noll.

Since 1883, Mr. Augustus Noll, of No. 8 East 17th street, has successfully conducted a business as an electrical engineer. Previously he had been connected with the Edison Parent Co., in the capacity of superintendent. He is thoroughly conversant with electrical energy in all its varied mechanical applications, besides, he possesses an extensive theoretical knowledge. As superintendent he had charge of many important contracts, not only in the city, but throughout the country. Since he began business for himself, his reputation as an electrical expert has spread widely and he has been most successful. His representative contracts are: Broadway Theatre, Proctor's Theatre, Aldrich Court, Astor Building, Beadleston & Woerz Brewery, Broadway Car Stables, the steam yachts "Tillie" and the "Corsair," new Delmonico's, Union League Club, Almeric Paget's residence, J. P. Morgan's residence, Altman's store, besides a large number of hotels, apartment houses and public institutions.

Thomas Nugent.

Nugent's hot air furnaces, manufactured and patented by Mr. Thomas Nugent, of No. 214 East 80th street, have long been known to householders and builders to be as efficient and economical as any in the market. The inventor, Mr. Nugent, is a man of thorough and wide experience in hot air appliances, and the general approbation with which his goods have been received testifies to their worth. In 1885 and 1886 the American Institute awarded his make of furnaces a medal of superiority over all entered in competition. The furnaces have been placed in a majority of the best modern houses constructed in this city, also elsewhere.

E. M. Pritchard & Son Company.

Prominent among New York's manufacturers of window frames, sash, doors, blinds and all kinds of trim, is the old and highly reputable firm of E. M. Pritchard & Son Co., of 138th street and Mott avenue. The founder of the business, Mr. E. M. Pritchard, is a man of sterling business qualities and undoubted probity. His large clientele of builders and others recognize the fact that their interests as his clients are

foremost with him always, and to this fact is due his continued success. His son, who was most intimately connected with him in the business, died a year ago, but the name of the firm remains unchanged. One of the special features of the well-equipped factory is the E. M. Pritchard patent fire-proof doors and shutters which have won much favor among architects and builders.

J. Reeber's Sons.

The well-known firm of J. Reeber's Sons, dealers in second-hand building material, whose yard and show rooms are located at Nos. 409 to 431 East 107th street, was established in 1870, by Mr. J. Reeber. It is well known that Mr. Reeber was the originator of the business of storing the salable material of dismantled buildings. His sons, Geo. A. Reeber and Wm. C. Reeber, now successfully manage the large business which necessitates an intimate and extensive knowledge of the building trade. Their main premises occupy twenty-one city lots, while an equally large affair is conducted as a branch at 139th street and 3d avenue. In both yards there are two acres in all. The firm has always made it their main object as a business principle never to misrepresent, and their ever increasing business is ample evidence of the confidence in which they are held.

George I. Roberts & Bros.

The enterprising firm of George I. Roberts & Bros., of Nos. 471 and 473 Fourth avenue, was established in 1887. It is probably the best known engineering supply house in the city. Besides carrying a complete line of steam, gas, water and electric goods, it makes a specialty of engine room supplies. The enterprise and progressiveness of this firm is shown in all its operations; they have equipped their shops with steam and electric motor power, and are ready to repair and accommodate patrons with utmost dispatch should an accident occur in either day time or night. They issue a monthly magazine devoted to the interest of stationary engineers and are in intimate connection with that body. They carry a most complete stock, supplying the smallest and largest dealers alike. The firm is incorporated with Mr. George I. Roberts, President; Edwin H. Roberts, Treasurer, and J. L. Wilder, Jr., Secretary.

G. L. Schuyler & Co.

The lumber firm of G. L. Schuyler & Co., whose office is located at 98th street and 1st avenue, is one of the largest in the city. It was established in 1835, and the name to-day is sufficient guarantee in itself among the trade for reliability and square dealing. The present firm is composed of Walter G. Schuyler and James E. Schuyler. In the capacious yards are carried a large stock of kiln dried Georgia and North Carolina pine, quartered oak, walnut, cherry and yellow pine bridge timber, besides a full supply of other classes. The company has been successful in securing contracts for supplying lumber

for some of the largest buildings erected in this city. Among the most recent are: the new Dun Building, Columbia College, Townsend Building, and the Postal Telegraph Building.

Sedgwick Machine Works.

This firm, with offices at 110 Liberty street, manufacture a complete line of dumb waiters and elevators for all purposes. Mr. Alonzo Sedgwick has been engaged as a mechanic and manufacturer for forty years, and has invented and perfected elevators and dumb waiters which in detail and design are superior to any make on the market. Mr. Justus I. Wakelee, the junior member of the firm, is also a thorough mechanic, and familiar with all details in the business; he manages the business in the Metropolitan district. The company manufactures several different makes of elevators and dumb waiters, fitted with various improvements, the most widely known of which are the Lane automatic and Sedgwick automatic dumb waiters. These elevators have been particularly specified by our most prominent architects in New York and elsewhere.

The Smith Premier Typewriting Company.

The Smith Premier Typewriting Company, whose New York office is located in No. 337 Broadway, was organized eight years ago. The growth and popularity of their typewriter is phenomenal, and is constantly increasing. Their shops are now larger than any other typewriting machine plant in the world.

The record of the Smith Premier Typewriter has been one of improvement from year to year, and there is no question that in the qualities of durability, simplicity, its adaptability and its mechanical construction it is superior to any other machine in the world. This fact is proven by its unequalled sales, not only in America but throughout the whole civilized world, and where civilization is merely approaching. Some of the superior improvements introduced by the company are its ball-bearing carriage, compound automatic ribbon feed, paper guides, durable and perfect alignment, removable platens, duplicate keyboard and the type cleaning mechanism.

Smith Woodwork Company.

The woodworking concerns of this city have suffered somewhat by ruinous competition from outside places, and it was to a great extent only those whose products could not be excelled survived. Among the successful New York firms is the Smith Woodwork Co., of Nos. 312-316 East 95th street, formerly of Howard street. The business is in the hands of men of long experience in New York trade, and the career of the concern testifies in a measure to their ability. The plant required for the manufacture of cabinet work, doors, windows and house trim in all woods is most modern and complete. The Smith Woodwork Co. has completed contracts of trim and woodwork for some of the large downtown office buildings, besides a large number of prominent buildings throughout the city.

W. W. Vaughan.

The mason building material supply firms which had been established prior to 1885, wondered no doubt that a firm could enter the brisk competitive trade of this city with such success as fell to the lot of Hoagland, Robinson & Vaughan. The initial success of this firm has become an established fact in this city. With a commodious and well-equipped yard, at the foot of 37th street, East River, and the reputation for dispatch of which the firm makes a special feature, they are ready to enter bids for any contract, no matter of what magnitude. They have already furnished mason material for some of the largest buildings erected during the past two years. A few are: the New York Commercial Building, Gil-lender Building, Bank of Commerce, Havemeyer Building, New Third Avenue Bridge at Harlem, the Kingsbridge Power House, St. James' Building, Hudson Building and the Johnson Building. The business is now carried on by W. W. Vaughan.

William Williams & Company.

The firm of William Williams & Co., of corner 131st street and Western Boulevard, has been established since 1894. It is composed of William Williams and L. G. Johnson, and under their management the manufacture of dumb-waiters, hand-power elevators and refrigerators of all descriptions is carried on. Both are practical men of thorough experience and have made as their goal, which they are rapidly attaining, the establishment of their name as the manufacturers of the best class of articles in their line. Mr. William Williams looks after the outside business while his partner, Mr. L. G. Johnson manages the factory. The class of work completed by them has been used by such well-known builders and architects as John P. Leo, Charles Buek, John Casey. Their elevators and dumb-waiters have been placed in innumerable apartment houses in the city.

Willson, Adams & Company.

The Willson, Adams & Co., dealers in hard and soft lumber, are probably the largest general yard dealers in this city. The firm was established in 1860, being then known as Smith & Willson; their yards were located at 39th street and East River, but after a few years they moved to larger quarters at 42d street, and subsequently to their present location in Mott Haven. Two yards are conducted by the firm, the hardwood branch being located at 138th street and Girard avenue, and the builders' lumber department at 149th street and the Harlem River. Their yards cover a space of 180 city lots, on which are situated sheds with a capacity of over 3,000,000 feet, and a large mill for dressing lumber. The members of the firm are: Charles H. Willson, Chas. L. Adams, Allen W. Adams, W. W. Watrous and J. S. Carvalho, all employees of the old firm of Smith & Willson.

Wm. P. Youngs & Bros.

The lumber house of Wm. P. Youngs & Bros. was established in 1866 and is one of the best known and substantial lumber firms in this city. They purchased, in 1892, their present site, on the corner of 1st avenue and 35th street, containing 21 lots, with a frontage on the East River. Particular attention is given to the arrangement for ready handling of lumber and the firm unquestionably possesses the largest and most orderly yards on the island of Manhattan. In connection with the yard, the firm operates the Dry Dock Moulding and Planing Mills, at No. 432 East 10th street, which are extensively known since the early shipping days, when it was the largest ship-joining plant in New York. The firm has a big stock of pine, spruce, hemlock, all kinds of kiln dried hardwoods and makes a specialty of plain and quartered oak.



A REVIEW OF THE DEVELOPMENT OF STRUCTURAL IRON.

IT has been said that history is largely a collection of controversies, and there is no happening so recent as to escape dispute or error. It is even so with what concerns Architectural Iron Work in this country, although the record of that industry extends over a period of time covered by only two or three generations of men. The use of iron for buildings has grown from an exceedingly small beginning to enormous proportions. But this is also true of every other branch of manufacture. Step by step, keeping pace with the rapid growth in population and the general advancement in the arts, buildings multiplied in number and size, and iron played a more and more important part with each recurring year. Indeed, it is due to the use of iron that wide and high buildings are made possible, for such buildings must be made available from a commercial standpoint, and meet business and domestic requirements, or their construction would be useless and unprofitable.

Fortunately, it is not necessary to trace back the history of making wrought iron or cast iron. The antiquity of working in brass and iron is well established, and the modern method of remelting pig-iron and pouring the molten metal into plastic moulds, there to solidify, fairly antedates the voyage of Christopher Columbus. Starting with colonial times, the village blacksmith forged from English-made iron the few pieces that the earlier houses required. The first brick houses on Manhattan Island, built with brick brought over from Holland, could not have contributed much to the prosperity of the blacksmith by the demand for a few anchors or straps. As time went by the supplying of forged work for houses—railings, gratings, shutters, stairs, etc.,—was separated from horseshoeing, and a special branch of blacksmithing was established, known as housesmithing.

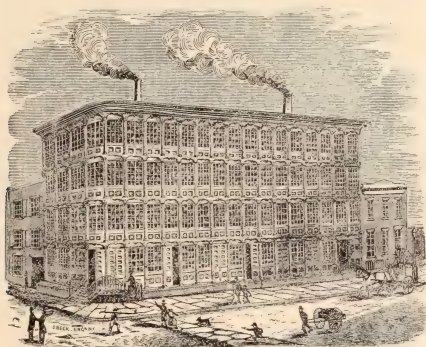
It was the housesmiths who were the contractors for the iron work of buildings up to less than fifty years ago. When cast-iron columns, beams and girders were required in buildings, they were procured from the foundries by the housesmiths. In due time housesmiths added foundries to their smithshops, and the cast-iron branch of their establishments became of the greater importance. Cast iron had its day, and now with the turn of the wheel of time it has fallen into a secondary place, and rolled steel, under the head of structural iron, takes the lead.

The larger of the old Eastern cities, New York, Boston, Philadelphia and Baltimore, have substantially the same earlier history of iron work for buildings. New York, however, from its more rapid growth than the other cities, and its greater demand for buildings, coupled with the high values of land, especially in the commercial quarters, has afforded the best field for the development of architectural iron work. It has held and still holds the first place in the column of cities where important advances in the methods of using iron in buildings have originated and been applied, and, therefore, it is within the confines of this city that the record can be traced with reasonable accuracy.

The pioneer iron foundry which made a specialty of castings for buildings was established in 1840, by James L. Jackson, in New York. The Jackson foundry, now the Jackson Architectural Iron Works, a corporation, was started to manufacture grates and fenders—then a new industry in this country, for at that time such articles were all imported from abroad—and during the nearly sixty years of its existence has continued the grate and fender manufacture as one of its principal branches in light castings. Columns, lintels, beams and girders were cast as orders were received from the housesmiths. Some years later, when the principal housesmiths built foundries of their own, the Jackson foundry added to itself smithshops, and thus it came about by individuals or firms engaged distinctly in the working of wrought iron adding foundries, and others engaged distinctly in making castings adding wrought iron shops, that establishments termed Architectural Iron Works were created.

The use of one-story iron fronts with rolling iron shutters to the

door and window openings was increasing. Entire fronts of cast iron was the sequence. The usual method of treating the front of a commercial building was to make the first story of cast iron, and for the stories above to use stone ashlar, with a moulded architrave, around each window opening. Stone was expensive, for at that time modern methods of using machinery in planing and shaping



THE FIRST CAST-IRON FRONT.

Erected in 1848, at the Corner of Centre and Duane Streets, New York.

stone had not been devised to reduce the cost of hand manipulation. Round columns, mouldings, cornices, ornaments could be executed in cast iron at an expense not to be named in comparison with stone.

The first complete cast iron front ever erected in the world was put up in 1848 by James Bogardus, a civil and mechanical engineer, on the corner of Centre and Duane streets, New York. It was five stories in height above ground, and covered an ordinary city lot, 25x100 feet.

The building was removed in 1859, when Duane street was widened, the ground on which it stood being included in the street. It was whilst in Italy, contemplating there the rich architectural designs of antiquity, that Mr. Bogardus first conceived the idea of emulating them in modern times, by the aid of cast-iron. During his

subsequent travels in Europe he held it constantly in view; and cherished it the more carefully as he became convinced by inquiry and personal observation, not only that the idea was original with himself, but that he might thereby become the means of greatly adding to our national wealth, and of establishing a new, a valuable and a permanent branch of industry. It did not take long for cast-iron fronts to come into popular favor, for the erection of the first few practically demonstrated the various points upon which predictions of failure had been based. The greatest bugbear that had to be overcome was the assertion as to the expansion and contraction of the metal. Events proved that the temperature of our climate, throughout its utmost range, from the greatest cold to the greatest heat, exerts upon cast-iron no appreciable effect, and therefore, for use in buildings is practically without expansibility.

Among the earliest cast-iron fronts designed by Mr. Bogardus was that for Messrs. Harper & Brothers, publishers, on Franklin Square, New York, built in 1854. This is still standing, and apparently the front is as sound as the day it was erected. It may be said to be one of the oldest existing cast-iron fronts.

The castings for Mr. Bogardus' first fronts were made by the Jackson foundry; and it is a singular circumstance that the same iron works were the manufacturers and contractors for the iron work that entered into the construction of what is believed to be the first of the unique structures of very recent times, the skeleton building.

Almost contesting honors with Mr. Bogardus came D. D. Badger, who moved from Boston to New York in 1845 and engaged in the foundry business. He put up his first entire cast-iron front in 1853. No man connected with the business ever did as much as Mr. Badger to popularize the use of cast-iron fronts, and in the famous establishment which he founded, the Architectural Iron Works, men of talent were gathered as designers.

New York for a long time supplied the demand for iron fronts in the other cities in the United States, East, West and South, but finally their manufacture was taken up in every section of the country. The cast-iron front business in New York reached its

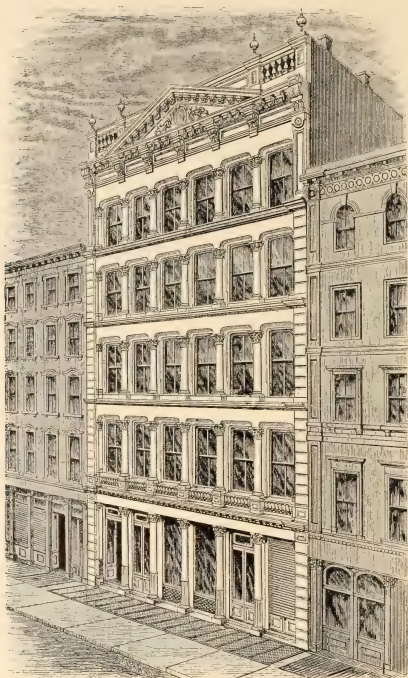


ONE OF THE EARLIEST CAST-IRON FRONTS.

That of Messrs. Harper & Brothers, Publishers, Franklin Square, New York; Erected in 1854—(From a print issued in 1861.)

greatest proportions in the early seventies. It was mostly done by five concerns, viz. Cornell's Iron Works, Badger's Architectural Iron Works, the Excelsior Iron Works, the Aetna Iron Works, and Jackson's Iron Works. Of these five only Cornell's and Jackson's Works are in existence to-day. For many years cast-iron fronts were overloaded with enrichment, but a period ensued when they were made plainer and more massive, as shown in the cut of one of the later cast-iron fronts.

One of the largest of the cast-iron fronts was that erected by the Cornell Iron Works for A. T. Stewart's store, New York, covering the entire block bounded by Broadway, Ninth and Tenth Streets and Fourth Avenue, in size nearly 200 feet in width, by 328 feet in depth. In its dress of white paint, Mr. Stewart used often to liken his iron front to puffs of white clouds, arch upon arch, rising 85 feet above the sidewalk. The first section of this store front was set up in place in 1859. Mr. Stewart was an enthusiastic advocate of cast-iron fronts for commercial buildings, believing that the material had in its favor unequalled advantages of lightness, strength, durability, incombustibility and ready renovation. In 1870, when he



A REPRESENTATIVE CAST-IRON FRONT OF A LATER DATE.

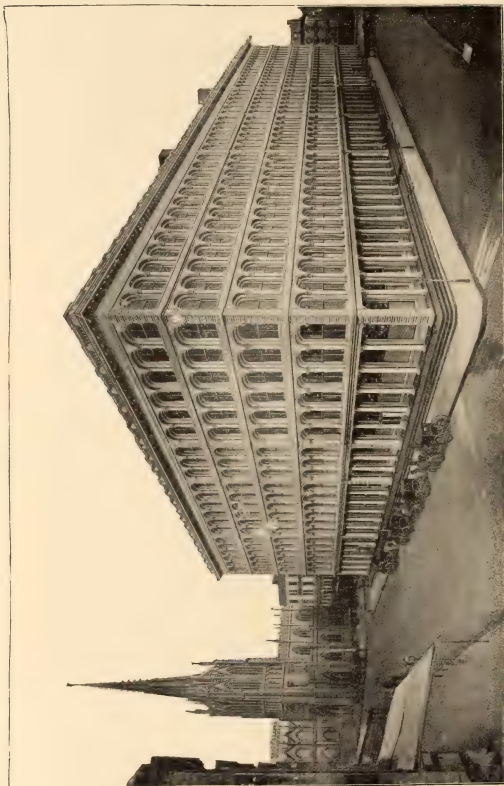
On both sides is seen the older prevailing style of store fronts for commercial buildings.

built his Woman's Home on Fourth Avenue, Thirty-second and Thirty-third Streets, New York, a fireproof structure, he adopted cast-iron for the fronts, and that without any desire to save in the first cost of the building which he generously intended should be a gift to the public.

There came, almost suddenly, a change in the style of fronts; architects struck out on a new line of design, cast-iron was abandoned except for the first story, and brick with terra cotta and light stone for trimmings was substituted for the upper stories in fronts for commercial buildings.

Rolled iron for certain purposes rapidly superseded cast-iron, and when steel displaced wrought iron, and the price of rolled steel beams cheapened, fireproof buildings multiplied. Up to the time of the Chicago and Boston fires there were but a very few private fireproof buildings within the limits of the United States. The chief number of fireproof buildings belonged to the Government. A desire to occupy structures something better than tinder boxes commenced to take a firm hold on the public, and now there are thousands of fireproof warehouses, office buildings, hotels, apartment houses and dwellings. In the first examples of fireproof buildings the floors were formed with groined arches of brick. Beams of cast-iron were sometimes used with brick arches between to form floors, and in some cases riveted plate beams were used for the same purpose.

In 1854 Peter Cooper's Trenton, N. J., Mills rolled the first solid wrought iron beam ever used for the floors of any building in this country. These beams were of a shape very similar to what is now commonly known as deck beams, having a bottom flange, a web and a bulb at the top, much resembling a railroad rail, only deeper in the web. These beams were to be used in the Cooper Union Building in New York, but they were diverted by request of the U. S. Government and used in that year in the U. S. Assay office building on Wall Street. The next building in which such beams with brick arches between were used was that for Harper & Brothers, publishers, a fireproof building erected that same year. It was the following year, 1855, that deck beams were used in the Cooper Union building, the very first building for which they were manufactured.



A. T. STEWART'S BUILDING, (now Wanamaker's,) WITH CAST-IRON FRONTS.
Broadway, 9th and 10th Sts., New York City.

A little more than five years later, just prior to 1860, the first "I" beams were rolled in this country. Cooper's Trenton Mills and the Phoenix Iron Co. of Pennsylvania beginning their manufacture at about the same time. The double-flanged or "I" beams met with great favor from the start. Elaborate tests of their strength were made by an army officer, Captain Anderson, who afterward became famous as the defender of Fort Sumter. As the demand for "I" beams increased rolling mills in different sections of the country took up their manufacture. The first size rolled was seven-inch, and gradually all sizes, from four inches up to twenty-four inches, were put on the market. The facility and promptness with which rolled beams can now be got, their admirable shape, by which the greatest strength is obtained with the least weight of metal; their reasonable price; the preference of architects and engineers to use rolled instead of cast metal when the load imposed tends to separate or tear the metal asunder; the concise and simple tables of the bearing strength for the respective sizes and various lengths, freely circulated by the manufacturers of beams; and the growing knowledge of how to build fireproof in a much less expensive manner than was formerly the custom—all this has contributed vastly to the increased amount of rolled work used in buildings.

The era of high buildings began with the year 1870. The advantage of building higher than the conventional five or six stories was being recognized. It was seen, however, that if buildings were to be carried to a height beyond the ability of a fire department to successfully cope with fire, such buildings must be constructed with something better for floors, partitions, stairs and roofs than a mass of wooden beams, studs, plank, furring and lathing more admirably arranged to burn than a pile of kindling wood, because of the innumerable air vents and spaces surrounding all and connecting from cellar to roof.

It was the elevator that taught men to build higher and higher. Up to 1870 the elevator had not been used to any great extent for passenger service. The first passenger elevators used in this country had vertical iron screws extending the whole height of the elevator

wells, and passed through a sleeve in the centre of the car. They were comparatively slow in moving, but safe. Improvements rapidly followed, and great speed and almost absolute safety were attained. In buildings equipped with passenger elevators the offices on the upper floors commanded larger rents than on floors farther down, while just the reverse conditions existed in buildings where the occupants had to climb stairs. With the incoming of high buildings came a safer construction. Under the requirements of law, buildings above a height that sufficed for five or six stories had to be constructed fire-proof. Eight to ten stories in height above the sidewalk seemed to be the limit, however, that it was advantageous to go, because the extremely thick walls necessary in the lower stories used up too much of the rentable space on the first or most valuable story, and also made the cost for foundations too great. Therefore, for a number of years, ten-story buildings were considered extremely high buildings, now and then one reaching the altitude of twelve stories.

Then came a jump in height through an apparently new and novel method of constructing buildings, but which upon close examination simply illustrates the slow progress by which the human mind makes its advance in discovery. It was rather startling at first to see fifteen, twenty, twenty-four and thirty-story buildings, but the surprise has passed away, and it is generally expected that buildings of still greater height than any so far put up will be erected, for it is conceded that there is scarcely a limit to the height that a building cannot be carried on the new lines of construction.

The popular name early given to these towering structures was "Sky-scrapers." Among architects and builders the new method was first called the "steel-cage" construction. In the "Record and Guide" 1892 edition of the New York building law, as a heading for a portion of the text in one of the sections, there was for the first time introduced in the written vocabulary the words "skeleton construction," and this term has been recognized as being so correctly expressive that such buildings are now generally called in the trade "skeleton buildings," and in some building laws of a later date are so referred to. What is understood by "skeleton construction" is a frame work of iron or steel columns and girders which carry the

weight of the outer inclosing brick walls, together with the floors, down to the foundations at initial points. In contradistinction, the "cage" construction is a frame work of iron or steel columns and girders which carry the floors only, and do not carry the outer walls. In the skeleton construction the outer walls are in panels, each panel extending horizontally from column to column, and vertically from girder to girder, acting as curtain walls, sustaining nothing, and being carried, each panel, on a girder. In the cage construction the outer walls are independent walls, from the foundation to the extreme top, sustaining themselves and themselves only, and, therefore, the walls are made less in thickness than if they had to bear the floors as in ordinary buildings such walls would have to do.

To trace the cage construction is an easy matter. In great numbers there are wide-span buildings, where the iron trusses of the roofs are supported at the ends by iron columns instead of resting on brick walls; the object being to save the room that brick piers of adequate strength would occupy. Time and again the ends of girders carrying floors have been supported on iron columns, so as to relieve too thin walls of the concentrated weight and to obviate the reinforcement of the wall with brick piers or buttresses. Where window openings were numerous in a brick wall or the piers between the windows too small to carry the load that the ends of weighted girders imposed a common method was to place a line of columns to take the ends of the girders. Sometimes these columns were placed directly against the brick wall, sometimes let into the wall for their depth, and sometimes entirely concealed within the brick work. With a problem of going higher than eight or ten stories in height the cage construction was the natural one to adopt, particularly in Chicago, where the compressible bottom will not safely sustain lofty brick walls except by special provision. As a matter of fact, the first high buildings erected in Chicago were of cage construction. An eleven-story building of the cage construction for the Home Insurance Company, of New York, was erected in Chicago in 1884, by Architect W. L. B. Jenney, of Chicago. The World Building in New York, erected in 1890, is a notable example of the cage construction, and its architect, Mr. George B. Post, strenuously insists that the cage principle—the

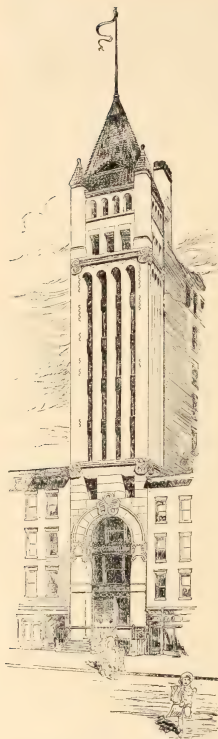
outer walls built self sustaining and independent of the frame work of iron or steel columns and girders which support the floors and roof—is better than the skeleton principle, in which the outer walls, together with the floors, are carried on the frame work. The building law in New York has always made but a very slight difference in thickness between bearing and non-bearing walls, therefore the outer walls, non-bearing walls, for a cage building in New York had to be of great thickness, for the thickness of walls is required to be in proportion to their height. Chicago did not have many restrictions and requirements relating to buildings, so an architect in that city could do much that an architect in New York would not be allowed to do. In New York a cage construction only very moderately increased the available inside room through the slight saving in thickness of walls. The old saying that necessity is the mother of invention applies to the method of making the frame carry panels of brick work to form the outer walls and at the same time carry the floors, when an architect was confronted with a problem of putting a high building on a narrow lot, and to avoid destroying the practical usefulness of the lot worked out the construction that is now quite generally known as “skeleton” construction.

Great as was the apparent novelty of the skeleton conception in the first high building, as widely as it has been adopted in constructing high buildings in the larger of the American cities, it lacks, however, the dramatic feature of a birth from one inventive brain. Like the cage construction it may be said to have been incubated, rather than invented, and the simple, triumphant method of constructing the most marvelous of modern buildings is found upon examination to be but an enlarged use of preceding methods. It, too, proves that any one step in advance of the former state of things is hardly perceptible, because it will be found that just before there was something very nearly the same in existence.

Without likening the skeleton to a cast-iron front buried in a brick wall, its immediate predecessor is to be found in the many building examples of columns placed in small piers, with girders between the columns, extending across the window openings to carry the floor beams. Of course, such a construction was used only in parts of a

building. There are many examples of cast-iron fronts on the gable or side street portions where certain of the openings are filled in with brick, particularly on the first story, these brick panels being supported by the same beams that support the floors. But the columns of a cast-iron front boldly stand out in evidence of their ability to sustain weight; no one had hidden from sight a cast-iron front with a veneer of stone or burnt clay to make the construction appear something different from what it really was. Brick walls of courts in buildings had frequently been supported on iron columns and girders, and walls carried on iron girders supported by iron columns, the latter encased in masonry work, were not uncommon. The question of the expansion of cast-iron and wrought iron in buildings had years previously been determined, so that no serious thought had to be given to that matter. The essential features of a skeleton building had been repeatedly used. Nevertheless, there remained for some one to construct an entire building in the manner that parts of buildings had been previously constructed. The necessity for such a treatment arose, and an American architect proved equal to the occasion.

In the Building Department in New York, there was filed on April 17, 1888, by Mr. Bradford L. Gilbert, architect, plans for the erection of an eleven-story building on lot No. 50 Broadway, the building to be 129 feet in height, from the sidewalk to the main roof, with a frontage of 21 feet 6 inches, and a depth in the narrow portion of about 108 feet. This narrow and high building was for the purpose of giving a Broadway connection to a building of much larger area on New street. The side walls were to be constructed in a peculiar manner. Instead of solid brick walls, vertical lines of cast-iron columns were placed at varying distances up to about 18 feet apart, having at the foot of each line a cast-iron shoe resting on the foundation walls at the basement floor level. These columns were in part to extend up to the level of the eighth-story floor, and in part to extend up to the roof level. The columns were in lengths corresponding with the heights of the several stories, and bolted together. On top of the seventh story columns a line of wrought-iron girders was placed, and from that point upwards were used solid



THE TOWER BUILDING,
No. 50 Broadway,
New York City. Bradford L. Gilbert,
Architect.

brick walls, twenty inches thick for a height of three stories, or about 32 feet, and 16 inches for the balance of the height, or about 25 feet. Between the columns and connected thereto at the level of each floor up to and including the seventh floor, and including one section on each side of the building up to the roof, rolled beam girders were placed both to support the floors and to carry the panels of brick work twelve inches in thickness. That is to say, the brick panels forming the side or curtain walls from the basement floor level up to the eighth story floor level were twelve inches in thickness, while above that the side brick walls were of a greater thickness, but in one section iron girders were placed between the columns at all the floor levels above as well as below the seventh story to carry the corresponding portions of the floors and roof, and there the twelve-inch thick brick curtain walls extended from the basement to the main roof. The wind pressure was provided for by diagonal bracing carried across between each of the vertical columns, and so constructed as to transfer to

the foundations a possible 116 tons of wind pressure when the wind blows at a hurricane rate of, say, 70 miles an hour.



THE TOWER BUILDING.

(Side View, Showing Iron Uprights.)

Bradford L. Gilbert, Architect.

As the building law did not provide for any such composite construction, the application of the architect for a permit to build was referred to the Board of Examiners in the Building Department, a board empowered by law to grant or reject applications in cases where the provisions of the law do not directly apply or where an equally good or more desirable form of construction is proposed than that required by the law. The writer, a member of that board, full well remembers the discussion evoked in the board, consisting of seven members at that date, when Mr. Gilbert's plans were presented for action. The strong preference of some of the members for solid masonry work, coupled with their prejudice against iron work in general, made it very doubtful for a time whether they would sanction this particular combination of iron work and brick work, but finally the board approved of the application and a permit to build was issued. The records in the Building Department show that the work of building was commenced June 27, 1888, and completed September 27, 1889. The building was named the "Tower" building.

Recently the building adjoining the Tower building on the north was torn down, enabling the north side of the Tower building to be photographed. Although not plainly shown on the picture, between each column are horizontal girders placed at each floor level, as before stated, to carry the floor beams and to carry the panels of brick work forming the side walls. The reason why these horizontal girders do not show in the picture is that the greater number of the girders are encased on the outside with brick work. The Jackson Architectural Iron Works were the contractors and manufacturers of the iron work of this building, and the constructional drawings made by that company, and from which the work was executed, show the intermediate girders which the photograph could not reveal.

Had Mr. Gilbert followed the usual method of constructing the Tower Building, the thickness of wall specified by law for a height of eleven stories would have left no room available beyond a hallway on the first story, which would have been a costly way of using an extremely valuable Broadway lot to reach a rear building. Had

he used independent side walls of the thickness he would have been required by law to have made them, and then placed cage construction on the inside to support the floors, the interests of the owner of the lot would have been made to suffer nearly as much. He thought out a better method, and to him belongs the credit of being the first in the world to construct a building in which the weight of the walls, as well as the floors, is transmitted through girders and columns to the footings, and New York City has the honor of being the birth-place of what is in effect a new method of building. This skeleton construction is being used in all the larger cities of the United States, and is now taking root abroad. In years to come the desire to give proper credit to the man who first conceived the idea of the skeleton building will be greater than at the present time. The popular verdict will be based on broad principles, and the minor steps taken preliminary to the accomplishment of a complete skeleton building will be brushed aside and forgotten in the generous praise that the world will bestow on the individual who first practically worked out the skeleton idea for lofty structures.

About the time the Tower Building was completed, or, to be exact, on September 11, 1889, plans were filed in the New York Building Department by Messrs. J. C. Cady & Co., architects, for a ten-story skeleton structure, to be erected on a lot 24 feet 2 inches front by 74 feet 4 inches deep, No. 25 Pine street, for the Lancashire Insurance Co. The building was commenced in October, 1889, and finished in May, 1890. In this building steel Z-bar columns were used.

Plans for the third skeleton building erected in New York city were filed in the Building Department January 2, 1890, by Messrs. Youngs and Cable, architects. This building was completed in May, 1891. It is known as the Columbia building, No. 29 Broadway, n. w. corner of Morris street; is twelve stories in height and has a frontage of 29 feet 9 inches on Broadway. The columns are of steel, and the curtain walls are twelve inches in thickness. Up to the time of its completion this building was the most prominent and successful of the skeleton structures erected in New York. The drawings for the steel skeleton were prepared by Mr. P. Minturn



THE AMERICAN SURETY BUILDING.

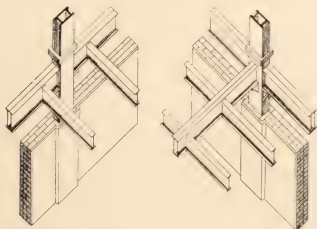
(In course of construction.)

Broadway and Pine street, New York City.

Bruce Price, Architect.

Smith, the President of the Union Iron Works, and it was chiefly through his instrumentality in showing its safety and economy of floor space that the owner of the Columbia lot was induced to adopt the skeleton construction.

Other skeleton buildings, of greater area and greater height followed in rapid succession in New York, among which may be mentioned the Manhattan Life, seventeen stories, with a height of 242 feet to the main roof, above which a dome and tower rises 108 feet more; the American Surety, 21 stories, 312 feet high; the Park Row Syndicate building (now in course of erection) 26 stories to main roof, and a total of 386 feet in height to top of towers, and the Empire building, s. w. cor. Broadway and Morris street, 21 stor-



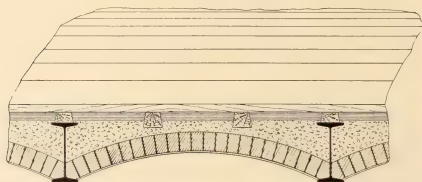
ies and about 300 feet in height. The height for all buildings is taken above the street curb line, and the stories below the sidewalk level are never counted in making a statement of height in feet, or in enumerating the number of stories to imply the height.

One or the other of two methods is generally used in the skeleton construction. In one the girders are placed between the columns at each story and carry both the curtain walls and the ends of the floor beams. In the other the girders between the columns carry the curtain walls only, and are placed at every second or third story or at each story; the floor beams are supported by girders placed at right angles to the columns.

In the accompanying cuts the two arrangements are clearly shown, but the small details of bolting, etc., have been omitted, as these

would add nothing to the information that the drawings are intended to convey. In each case it will be noticed that the weight of the side walls and the weight of the floors are transmitted through girders to the columns, which latter in turn transmit the weights to the footings.

The self-evident fact has been noted in this historical review that lofty buildings are feasible only through the use of the elevator. Another feature in making lofty buildings financially feasible was the use of a new system of constructing fireproof arches between the iron floor beams. For years after the introduction of rolled beams, the method of filling in between the iron floor beams was by means of common brick arches leveled up on top with concrete, and floored over. On the under side the bottom surfaces of the iron beams were



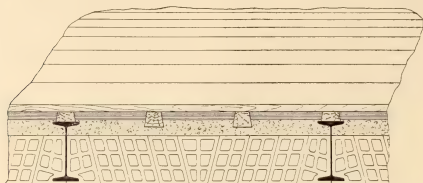
left exposed and painted white. A ceiling of a room, then, consisted of a series of arches between iron beams, altogether very unpleasant in appearance. If a level ceiling was determined upon it had to be obtained by wood furrings and wood lathing fastened up to the underside of the beams and then plastered, thus greatly detracting from the fire-resisting qualities; or by iron lath stretched from beam to beam and plastered. The heavy weight of the brick arches was thus further increased by the weight of the level ceiling arrangement underneath. An American citizen, Balthaser Kreischer, a well-known manufacturer of fire-brick in New York city, invented and patented in 1871 the use of hollow-tile flat arches between iron floor beams. His was not the invention of a flat arch in itself, but of a flat arch whose end sections abut against rolled iron floor beams and recess around the bottom flanges of the beams, having on top wooden sleepers and floor beams, thus forming a level ceiling underneath and a walking surface above. The flat-arch system provided a level



THE EMPIRE BUILDING.
(In course of construction.)

Broadway and Rector street, New York City. Kimball & Thompson, Architects.

ceiling at once, at less cost and with much less weight of material than before; the iron beams were covered in and protected from the effects of fire, and the side walls had a lighter load to carry.



It was in the U. S. Post Office building in New York in 1872-3 that for the first time in this or in any other country was introduced hollow tile flat arches between iron floor beams. In the same year, 1872, the Kreischer floor arches were placed in the Kendall building, corner of Dearborn and Washington streets, Chicago, through the instrumentality of Mr. George H. Johnson, a civil engineer who had previously been connected with Badger's Architectural Iron Works in New York. A new impulse was given to fireproof construction, and soon the flat-arch floor system came into general use for fireproof buildings all over the country. In a legal contest that lasted for a number of years, it was finally decided in the U. S. Circuit Court that the Kreischer patent was void for want of originality under the crucial test of publications from all parts of the globe that a patent must sustain when the law is invoked in its behalf. The decision prevented Mr. Kreischer from realizing the profits of his supposed invention, and it deprived him of the honor of having made the invention which abroad is recognized as an American system of fireproof floorings.

The stamp of American genius, however, is on all three of the principal elements of lofty building construction:

1. The modern passenger elevator.
2. The flat-arch system for fireproof floors.
3. The skeleton construction.

All three are in unity for a common purpose, that of making it

possible to construct buildings of any desired height, and the starting point of each has been stated, but in constructional features none have remained stationary. Elevator cars are moved by electrical power, by hydraulic power, by direct steam power. To fill the spaces between the steel floor beams various devices, such as corrugated iron bent to arch shape and filled in above with concrete, and wire cloth embedded in cement mortar, have been introduced, to reduce still further the floor loads transmitted to the foundation. Steel columns in a variety of forms have been invented as substitutes for cast-iron columns in skeleton buildings.

Undoubtedly there is an increasing preference by architects and engineers for the exclusive use of riveted rolled steel columns to the suppression of cast-iron columns in fireproof buildings. Good cast-iron is better fitted to resist compressive strains than rolled steel, but owing to the liability of defects occurring in the process of manufacturing cast-iron columns, the shifting of the cores which entail variations in the thickness of opposite sides, concealed cavities, blow holes, cinder, imperfect union of two currents of metal in the mould, and initial strains due to unequal cooling, added to the opportunities for intentional departure from specified thicknesses, and the use of inferior qualities of pig-iron on the part of unscrupulous founders, have quite naturally created a decided preference for built up columns of rolled steel, as the thickness of the steel is uniform, and can be measured and weighed in detail. The connections between riveted steel columns are generally liked better than the connections of cast-iron columns, being more rigid and stable in the one case than in the other, especially desirable where unequal or eccentric loads are placed on columns.

Some constructors advocate the use of cast-iron as the only material for the columns of skeleton structures. When columns are built around with brick work they are permanently buried out of sight. Between the columns and the outer air there are only a few inches of masonry work, through which dampness or rain finds its way. In wrought iron rust is insidious, and it honeycombs and eats entirely through the metal. Mild steel, such as riveted columns, are made of, rusts faster than wrought iron at first, then slower. Cast iron, on

the contrary, oxidizes on the surface in damp situations; rust does not scale from it, and the oxidation when formed is of a much less dangerous kind, extending only a little way into that metal, to about the thickness of a knife-blade, and then stops for good. There are other dangers to be apprehended—gases and creosote from flues, escaping steam from defective pipes, leaks or an overflow of water, all quite possible to reach the columns. Wrought iron is seriously affected by such mishaps, cast-iron practically not at all. Mild steel has come into use so recently that time has not yet enabled experts to speak positively how long or how short it can retain its integrity in adverse situations. Damp plaster and cement corrode wrought iron and steel; lime is a preservative. If from any cause a column is affected in one place the entire structure above it is weakened, but if a girder is affected the trouble is local, for any one girder in a skeleton construction only carries a portion of the floor of one story and the bay or portion of the curtain wall which extends up to the next girder above. While failure in a girder would be far less disastrous than failure in a column, either trouble would be serious enough, and fully warrants every precaution being taken in the first instance to avoid possible bad results. Advocates of riveted steel columns insist that such columns, when properly encased in fireproof and waterproof materials, as the intent always is that they shall be, are protected permanently from injurious influences. High buildings are erected for permanency, to last for centuries. Years from now the question will be practically determined whether skeleton structures are a wise or foolish method of building, whether they are stable and lasting, or secure and reliable for only a comparatively short number of years.

Columns built of plate and angle irons combined in suitable forms and riveted together, common in bridge construction, came gradually into use in the construction of buildings. There seems to be no record of where the first wrought iron column was used in a building, nor where the first plate girder was used. The Phoenix Iron Company placed on the market over thirty years ago closed round columns formed of segments riveted together.

The Phoenix column has enjoyed great popularity, and been exten-

sively used in building work and in bridge work. It is obvious that rolled iron or steel can be put into a variety of shapes in forming columns, and much ingenuity has been displayed in this direction, one of the best liked of such compound sections being the Z-bar column.

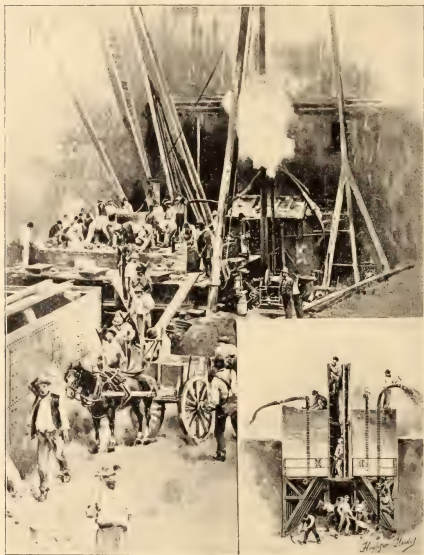


The practice of engineers in bridge building has cleared the pathway for architects to follow in overcoming difficulties incident to constructing great buildings. Particularly is this so in the matter of foundations. First came footings of stone or concrete laid upon the earth, whereon to build the foundation walls. In soft or marshy places, where the safe sustaining strength of the ground was inadequate, ranging timbers were resorted to or piles were driven to solid bearings. Inverted arches were used between isolated piers where the nature of the ground and character of the building made it necessary to well and evenly distribute the weight of the superstructure over a goodly stretch of ground. Later came the use of rolled steel rails and beams in the form of grillage, resting on a bed of concrete, expanding still later into the use of the grillage work over the entire area of the lot or area of the building, a raft upon which to erect the superstructure. Lastly came the crowning feat of carrying piers down through wet and soft earth of great depth to hard pan or bed rock by the pneumatic caisson process.

Small caissons had been sunk by mechanical means without the use of compressed air in the working chambers in putting in the foundations of the Fifth Avenue Theatre, New York, Mr. Francis H. Kimball, architect, in 1892. The pneumatic caisson sinking for buildings was first used for foundations of the Manhattan Life Insurance building, New York, Messrs. Kimball & Thompson, architects, in 1893. It was imperative in the Manhattan Life case that the construction and duty of the foundations should not jeopardize nor disturb the existing adjoining heavy buildings which stand close to the dividing lot lines on either side. The mud and quicksand were likely to flow if the pressure on the earth was much increased by heavy loading or diminished by the excavation of pits or trenches. Special foundations were, therefore, necessary. The foundations extended about 55 feet below the street curb level, and the average

distance that the caissons were sunk below the bottom of the main excavation was 32 feet. After the caissons were sunk to bed rock they were filled with masonry.

The side columns of the skeleton frame were located so near the dividing lot line that if they had been directly supported by the piers



MANHATTAN LIFE INSURANCE BUILDING, NEW YORK.
(Sinking the Caissons for the Foundations.)

in the caissons they would have loaded the piers eccentrically and produced undesirable irregularities of pressure. This condition was avoided, and the weights transmitted to the centres of the piers by the intervention of heavy plate girders extending continuously across the building and resting on bolsters centrally placed upon the piers,

the overhanging ends of the girders acting as cantilevers and supporting the side columns of the skeleton superstructure.

Brief as is this description of the construction of Manhattan Life building, it records the first use in buildings of reaching rock bottom for foundations through the use of pneumatic caissons, and the support of side walls by cantilever girders. Surely enough to the credit of one building! Let the reader not forget, however, that any reasonably correct statement of historical facts will be assailed by charges of inaccuracy, but prominent and successful accomplishments in every walk of life overshadow and swallow up small and unimportant doings, although the little events may be cited to discredit the greater.

The manufacture of iron roof trusses, heavy riveted girders, and similar iron, or rather steel, structural work, has, to a great extent, gone from the distinctively architectural iron works to the rolling mills which are now pretty generally fitted with machinery and appliances for putting together plates and angles and other shapes of rolled steel into various forms. Methods of rapid erection of structural steel work by the use of steam appliances have quite naturally superseded hand hoisting by derricks. The change from hand power to steam for hoisting purposes applies also to all kinds of building material, to bricks and mortar, to stone, etc., and is an evidence of the greater rapidity with which buildings are erected than formerly.

One of the most useful and novel applications of iron in buildings was that of illuminating coverings over areas and vaults and for skylights, by inserting small glass discs in perforated iron plates. This



invention was made by Thaddeus Hyatt, an American, and patented by him in 1845. The patentee reaped a large fortune by the extended use of his invention, but it was only after long and costly litigation that his rights were legally established. In those suits

evidence was adduced that there existed in the floor of some old cathedral in Europe iron gratings with small squares of glass inserted in same, to light the vaults under the main floor, and it was only through the technical skill and ability of lawyers in a special line that the

Hyatt foundation patent was saved from being void for want of novelty. It adds but one more instance of the truth of the old saying that there is nothing new under the sun, and yet, among the thousand things that stir the pride of the American people, the name of Hyatt will always be remembered as the inventor of illuminated tiles, just as the name of Howe is remembered in connection with sewing machines, the name of Morse in connection with telegraphy, and as the name of Gilbert will be in connection with skeleton structures, although in each of these cases and in many others the line is scarcely distinguishable between what they really did and what had been done previously by their respective predecessors.

Great have been the achievements in every division of architectural iron manufacture. It may now be asked, What of the future? With the progress of the past to encourage, and the conditions of the present to assist, it is reasonable to expect that the advance will continue at an accelerated pace, and result in securing greater safety to human life and property, and an increase of comfort and happiness to occupants of buildings.

WILLIAM J. FRYER.

LEADING STRUCTURAL IRON FIRMS.

Cooper, Hewitt & Co.

Shortly after Peter Cooper, of philanthropic memory, built the iron works at Trenton, the firm of Cooper & Hewitt was established; this was more than half a century ago. The members who composed the firm were Mr. Edward Cooper, son of Mr. Peter Cooper, and Mr. Abram S. Hewitt. Now the firm of Cooper, Hewitt & Co., with offices at No. 17 Burling slip, controls not only these works, the business of which is carried on in the names of the New Jersey Steel and Iron Company and the Trenton Iron Company, but other important iron concerns in New Jersey and Pennsylvania.

It is hardly necessary for us to state that the firm of Cooper, Hewitt & Co. has played a most prominent part in all the various branches of constructive work in America, where iron and steel are composing elements on the one hand, and where iron and steel wire, wire rope, chains, etc., are used also, for the Cooper, Hewitt Co. at their works manufacture both from the raw material. One is able to form but a slight estimate of the extent of this business when it is learned that the iron is received in its crudest shape, handled and carried through the many processes, finally assuming the shapes that commerce buys and uses for constructive work. It is not here, however, that the business of this concern stops. The wrought iron and steel beams, channels, angles and tees, and the other familiar shapes are taken to some of our great cities where some towering skyscraper or the arched roof of an auditorium is to be erected. To the resources of the firm belong a corps of highly skilled and practical engineers who have become experts at this class of work. It may be that the beams are taken to some western city on the banks of a great river, which is to be bridged. On the other hand the wire ropes and cables may be carried to mining regions, or wherever wire rope tramways, hoist-conveyors, hauling and hoisting apparatus, power transmission by wire rope, may be used. In this latter work the Trenton Iron Company have furnished the wire rope and necessary apparatus for the purposes named in all parts of North and South America, having used with marked success the Bleichert system of wire rope tramways. A great feature of the New Jersey Steel and Iron Company's business has been the construction of bridges for different railroads from points between New York and the Rockies. Among the largest of these are those at Burlington, Ia., over the Mississippi River, at Bellefontaine over the Missouri River, at Second avenue over the Harlem River, and at Trenton over the Delaware River. Cooper, Hewitt & Co., through the New Jersey Steel

& Iron Co., have also constructed many miles of elevated railroad structures and viaducts, including seven miles of the Brooklyn Elevated Railroad and various sections of the New York "L."

Jackson Architectural Iron Works.

The Jackson Architectural Iron Works, of No. 315 East 28th street, ranks among the most prominent manufacturing plants producing all kinds of iron bronze and brass work. It stands unsurpassed in facilities for production, manufacture and in the quality of its output. The success of the concern has been contemporaneous with the growth in the demand and use of structural iron and steel. The successful completion of the contracts by the Jackson Architectural Iron Works, whose reputation for reliability was well known for many years, did much for the maintenance and subsequent rapid development of structural iron work in this city.

Their records show that the business was established in 1840 by Mr. J. L. Jackson. It is, therefore, one of the oldest iron working concerns in the city. The first site of the shops and foundries was located on Goerck street. The business was carried on there for seventeen years with such success that in 1857, the business demanding more space, the firm found it necessary to obtain new and larger premises. The present site on East 28th street was chosen, but in 1860 the plant had again to be enlarged. The business of the firm had grown so extensively in the quarter century that followed that in 1885 it was deemed advisable to organize it into an incorporated company. This was accordingly done, and Mr. Wm. H. Jackson was the first president of the company. It was previous to the organization and incorporation that the movement in the growth of structural and ornamental iron work was giving evidence of a permanency which it has since maintained. At no time in the history of the Jackson Architectural Iron Works did it occupy a position other than in the front rank, and this position was to be maintained in this new era of structural and ornamental iron work. To-day there is no contract of this nature from the fireproofing of a modern residence to the erection of the highest of the tall office buildings that they are unable to complete in the most approved manner. Their facilities are unsurpassed and the equipment of the plant is up-to-date and suitable for producing work rapidly. The plant covers forty city lots, with shops five stories in height, and on an average one thousand men are employed.

The many facilities possessed by this company gives it a distinct advantage in competition for the different kinds of work. It has executed many of the best contracts ever completed in this country and Canada. A partial list includes: Bowling Green Building, Metropolitan Life Insurance Building, Museum of Natural History, Metropolitan Telephone Building, Edison Electric Light Building, Players' Club, Progress Club, Carnegie Music Hall, Puck Building,

Jackson Building, Western Union Building, Tower Building, New Criminal Court House, Hotel Endicott, Good News Theatre, of Boston; Belgravia Hotel, Potter Building; hotels San Remo, Majestic, St. Andrew's Hoffman; American Surety Co. Building, American Lithographic Co. Building, the ornamental work in the Washington Life Building, Cable Building and St. James Building. The officers of the company are: Wm. H. Jackson, President; Henry A. Wilson, Vice-President; David Pettigrew, Secretary; John H. Hankinson, Treasurer.

Post & McCord.

The firm of Post & McCord, whose main offices and works are located at Clay, Dupont, Provost and Setauket streets and Paidge avenue, Borough of Brooklyn, is one of the largest engineering and contracting firms in New York. It is in every way a representative firm in the constructive iron work business, and has kept well in the van in all the many developments and improvements in structural iron work.

To-day, the iron work in a building of any importance is the most important factor in its construction; the steel grillage foundation in its multiplicity and variety and the steel skeleton construction form the base and framework—the essential parts of the building. So important then is the successful engineering of the iron work of a building that architects are loath to place the contract in any but tried and reliable hands. Any observer of building movements in this city cannot help but notice that all our prominent buildings erected during the past decade have been completed by but a comparatively few engineering and contracting iron working firms. This has been due to the fact that so great have been the strides in improvements made during the past ten or fifteen years that the rank and file have not been able to catch up with the leaders, and it may be added architects could not be found who were willing to give contracts to any but experienced and prominent firms.

As we have stated, the firm of Post & McCord ranks easily among the first as a responsible iron contracting firm in this city. Established in 1877 by Mr. Andrew J. Post, civil engineer, and William H. McCord, the firm entered the steel and iron constructive trade when it was almost in its infancy. Both men possessed technical and theoretical knowledge besides practical experience. The growth of their business has been contemporaneous with the growth and development of the steel and iron constructive trade in America. From a small but complete plant, the business has grown so that the works now cover an area of three and one-half acres, and have a capacity of one hundred tons of structural iron and steel a day. The facilities which this firm possesses for rapid work are unsurpassed. A corps of highly skilled engineers trained in special and general constructive iron work are kept constantly at work in the office and at the scene of the work.

Post & McCord have erected over two hundred and fifty well-known buildings, comprising banks, office buildings, public buildings in New York and other cities, apartment houses and dwellings, clubhouses and theatres, stores and warehouses, stables, piers, depots, mercantile buildings, armories, churches and factories, examples of which are too well known to need special description.

The Manhattan Iron Works.

The Manhattan Iron Works, of Nos. 212 and 214 East 99th street, under the management of Mr. A. Busse (who also is the proprietor), are well known to the building trade. Mr. Busse is an old hand at the business, and to his practical experience and business ability is due the rapidly acquired prominence which the firm enjoys. His shops are equipped with every facility for manufacturing structural and ornamental iron work, and particular attention is given to staircases and elevator enclosure work. Some of the more important contracts are the iron work for municipal building in Crotona Park; two 6-story apartments corner 115th street and 7th avenue; St. Stephen's Church in Kingsbridge; 7-story apartment corner 94th street and Boulevard; 6-story apartment corner 105th street and Boulevard, and many others.

George H. Toop.

Iron and casting foundries in New York have been practically eliminated on account of the peculiar conditions of competition from outside places. A survival of the fittest has been brought about and now the number of foundries does not exceed half a dozen. Among those who by superior quality of workmanship and careful management have stood the severe test is the well known firm of George H. Toop, of Nos. 406 to 414 East 91st street. He has been established in the foundry and wrought iron business since 1871. At the present time his premises cover five city lots and on an average seventy men are employed. All kinds of cast and wrought iron work are manufactured in the most approved manner. Mr. Toop has been specially successful in manufacturing the iron columns and pillars for store fronts and large apartment houses. Mr. Toop is President of the East River Lumber Company.

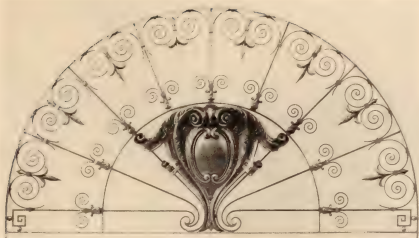


THE MANHATTAN HOTEL.

421 Street and Madison Avenue.

(1897.)

Henry J. Hardenbergh, Architect.



GRILLE OVER ENTRANCE, BUILDING 890 BROADWAY.
 Executed by Hecla Iron Works. J. B. Snook & Son, Architects.

A REVIEW OF ORNAMENTAL IRON WORK.

IRON work for decorative purposes was thought worthy of the best ability of the artist-smiths from the fourteenth to the eighteenth centuries, and the many beautiful examples to be seen abroad illustrate how great was the skill of workmen in olden times in producing the most delicate details of forged iron work. Along the streets in the older quarters of nearly every city in Europe can be found numerous examples of ornamental wrought iron which are admirable in design and execution, and which would be a difficult matter to copy by the workmen of to-day, even regardless of the cost of production. In the multiplicity of wants in our new country, economy of time, and consequently of cost, become a compulsory matter from the very start. The little ornamental iron work that was first used in the United States was forged work, and some excellent specimens are still to be seen in the streets of colonial cities, the production of men who had emigrated to the New World. The use of cast-iron for ornamental iron work, even in copying designs especially intended for wrought iron, was natural, and, under the circumstances, quite excusable from the standpoint of enforced economy, but unfortunately most of the early designing in foundries was done by men who were simply carpenters or pat-



ENTRANCE GATES, BUILDING 489 5th AVENUE, NEW YORK.
Executed by Hecla Iron Works. Pottier & Stymus, Designers.

tern makers, and, therefore, much that was intended to be of an artistic nature was simply barbarous. Alike with ornamental iron work, this was the case with nearly all trades furnishing articles for building, such as cabinet work, mantels, wall papers, carpets, etc. In course of time came advances in industrial art, every trade reflected the refining influences of decorative art, and perhaps none more so than the craft of iron workers, so that to-day such simple things as guards for doors and windows, gates, railings, crestings and finials, lamp-posts, fountains, vases, etc., display really artistic treatment in outline and in ornamentation.

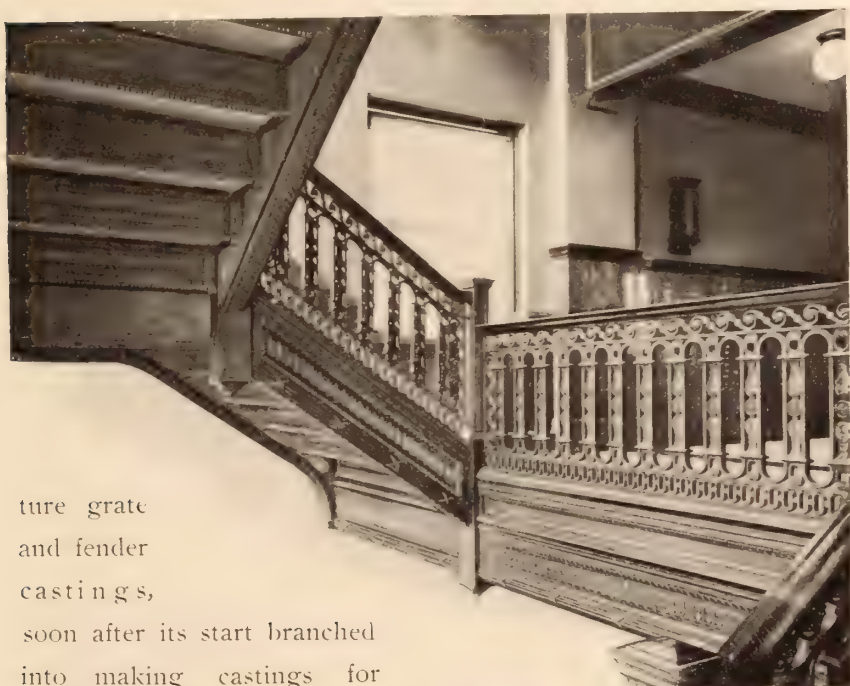
In New York, along East Broadway and in Henry and other streets of that ultra-fashionable neighborhood of fifty or sixty years ago, are still to be found some very creditable specimens of hammered work in railings and newels. One of the favorite designs for the tops of newels on stoops was leaves crowned with a pineapple, all in wrought iron. In the lay-out for the streets of the city every lot was given an arçæ line, and as the open area had to be enclosed by a railing and the sides of the high stoop to be protected, the demand for railings and newels became very great in supplying houses for the rapidly growing city. Most naturally these railings and newels came to be made of cast-iron, being cheaper and more showy than wrought iron. Coupled with a large demand for house railings came a great demand for railings in cemeteries. At that time it was thought to be the proper thing to fence in a grave plot. An old story is told of an appeal being made to a certain rich man for a contribution to put up an iron railing around a church burying-ground; he bluntly refused to give a single cent, on the ground that those who were in couldn't get out, and those who were out didn't want to get in. Anyway, cemetery railings, house railings and railings to enclose public parks and private grounds constituted the basis for the first growth of ornamental iron work manufacture. Garden vases came to be in considerable demand, and then statuary for out of door purposes, lions, dogs, deers and other animals.

By a steady growth along the lines of natural progress, several foundries in New York became extensive manufacturers of ornamental cast-iron work. Janes, Kirtland & Fowler, the firm who did



ENTRANCE GATES, CORN EXCHANGE BANK BUILDING.
Executed by Hecla Iron Works. R. H. Robertson, Architect.

the iron work of the dome of the Capitol in Washington, drifted exclusively into the ornamental branch, but finally went out of business entirely. J. L. Mott's foundry, established to manufacture pipe, plumbers' fittings and hollow ware, but incidental to the original business, its several branches of ornamental iron work, increased to enormous proportions, and The J. L. Mott Iron Works of the present time is entirely in the line of light castings of an ornamental character. J. L. Jackson's foundry established in 1840 to manufac-



ture grate
and fender
castings,

soon after its start branched
into making castings for
buildings, and led the way to
make light architectural cast-
ings, such as window lintels

and sills, Corinthian leaf capitals, newels, balusters, railings, etc. The Jackson Architectural Iron Works still carries on all of its several early branches, its foundry for light castings being distinct from its foundry for heavy castings. In making light castings, a different grade of sand is required, a different class of moulders employed, a different mixture of pig iron used, and, indeed, a separate moulding shop necessary than in making heavy castings.

STAIRWAY, CONSTABLE BUILDING.

Wm. Schickel & Co., Architects.

Executed by Hecla Iron Works.



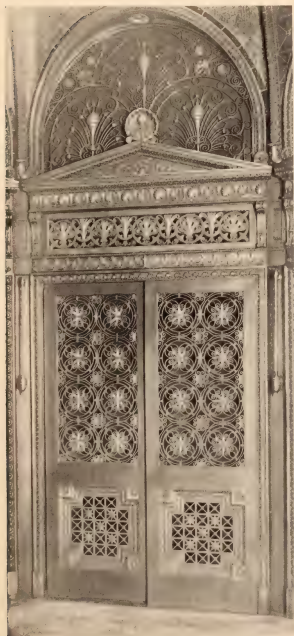
STAIRWAY, NEW YORK CLEARING HOUSE.

Executed by Hecla Iron Works.

R. W. Gibson, Architect.

No matter how good a design may be, its execution in cast-iron may be entirely spoiled by falling into the hands of incompetent me-

chanics. The difference between a beautiful line and one which has no beauty whatever, is very frequently so undefinably small that it can scarcely be described, although it makes itself felt. To secure the best results in cast-iron requires a combined technical knowledge of architectural detail, of artistic pattern work, of foundry practice, and withal a business pride and enthusiasm in the directing head of the concern. Establishments which become great under one management may decline or become obsolete under another. Each generation has its own development, and for this reason the field is always open to skill, enterprise and courage. In ornamental iron manufacture first was the period of blacksmithing, then the period of cast-iron, and now both branches flourish under a growing public taste and

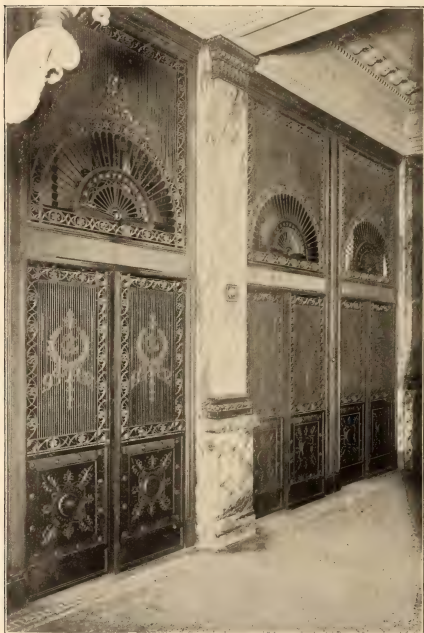


PASSENGER ELEVATOR ENCLOSURE
(part of, about 1-6 of one story).
AMERICAN TRUST BUILDING.

R. H. Robertson, Architect.

Executed by Hecla Iron Works.

an ability to pay the price for the most artistic productions in each kind of metal. Conditions change, and opportunities broaden and become diversified.



PASSENGER ELEVATOR ENCLOSURE, LORD'S COURT BUILDING.
Executed by Hecla Iron Works. John T. Williams, Architect.



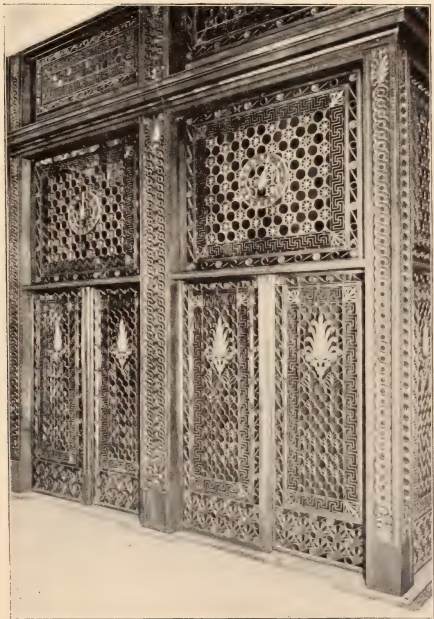
PASSENGER ELEVATOR ENCLOSURE, CONSTABLE BUILDING.

Executed by Hecla Iron Works.

Wm. Schickel & Co., Architects.

In buildings where the floors are constructed with wooden beams, there is comparatively little inside iron work. In buildings where rolled iron or steel floor beams are used, the stairs are of iron and comparatively little wood is used. When fire-proof buildings commenced to increase in numbers the contracts for the iron work required therefor were taken as a rule by foundry firms. As such buildings increased in height and area, the increasing use of iron in buildings began to attract the business attention of men not connected with architectural iron establishments, but who were possessed of engineering knowledge, and in some instances with experience gained in rolling mills and in bridge building work. When the height of fire-proof buildings took a sudden jump from eight or ten stories to twelve, fifteen, eighteen and twenty stories, a most inviting field was opened and seized upon by individuals and firms as contracting engineers for skeleton structures, and so a large proportion of important contracts for the iron work was thus taken by men who were without shops of any kind, and who depended on subletting the whole, the steel work to rolling mills and the cast-iron work to foundries. Obviously the new class of contractors preferred to give the light and ornamental parts to those who were not their natural competitors and opponents, and therefore the opportunities for an increase of business came to the proprietors of such foundries as confined their manufacture to light ornamental work, and who did not seek or desire heavy structural work.

In particular, one firm, Poulson & Eger, the Hecla Iron Works of New York, was available and acceptable to the engineering class of iron contractors. Both Mr. Poulson and Mr. Eger had thoroughly learned their business during their early manhood days in the drafting room and in the shops of Badger's Architectural Iron Works, and when, in 1876, they started together on their own account, with modest capital, and with a small shop, in Brooklyn, their ability as artistic designers and mechanical constructors, their close attention to details, and the superiority of their productions, soon brought them great business success. The expansion of their business and accumulation of capital affording better opportunities, they bent their energies in all ways to improve the character and quality of



PASSENGER ELEVATOR ENCLOSURE (part of), CENTRAL NATIONAL
BANK BUILDING.

Executed by Hecla Iron Works.

John T. Williams, Architect.

their production, sparing no expense that could be safely and profitably employed to that end. Again and again their factory space was increased, until now it covers 35 city lots, and is supplied with the best modern appliances, apparatus and machinery, much of it being of special construction, adapted to the new methods introduced from time to time. Special attention was constantly given to improve the finishes, which early resulted in the establishment of an electroplating plant capable of plating the largest pieces of ornamental iron used in buildings, thus opening up a practically new field. Next came the introduction of the Bower-Barff process for the protection of iron surfaces from rust, this process consisting of exposing the articles to be treated to the action of superheated steam in muffles, thereby covering the surface with a permanent film of magnetic oxide of beautiful blue-black or ebony appearance, and suitable for exterior or interior work. The Bower-Barff process had been introduced in Europe several years before, for the treatment of water pipes, but it was at the Hecla Iron Works of Messrs. Poulson & Eger that the apparatus was perfected and made adaptable to ornamental iron work. Still later on the Hecla Iron Works installed a large electro-deposition plant for the production of galvano-plastic copper-bronze ornamentation, not only for small articles such as mouldings, plaques and panels, but for columns, cornices, statues and other large pieces.

It is largely due to the skill and enterprise of the proprietors of the Hecla Iron Works that nowhere else in the world can be found as artistic interior iron work in modern buildings as in this country. Types of iron work unknown twenty years ago, and which would have been impossible of production by any processes of manufacture then in vogue, are to be seen now in nearly every first-class modern building in New York, and in other large cities in this country. The influence of the artistic labors of Messrs. Poulson & Eger has spread far and wide, and the methods initiated by this firm are being followed by many other manufacturers.

The business of manufacturing ornamental iron work has become a very complex one. Iron foundries, brass foundries, forging shops, fitting shops, plating shops, modelling shops, buildings for



ELEVATOR CAR, NEW YORK LIFE INSURANCE CO.'S BUILDING.
Executed by Hecla Iron Works. McKim, Mead & White, Architects.

drafting, for photographing—these enumerate only a portion of the various branches of industry brought together to make up a complete plant. Few other American industries have grown with such rapidity as ornamental iron work, and but few other manufactures better illustrate the history of the progress of the American people in skill and refinement.

WILLIAM J. FRYER.



COAT-OF-ARMS AT PORTALS OF CENTRAL
BRIDGE OVER HARLEM RIVER.

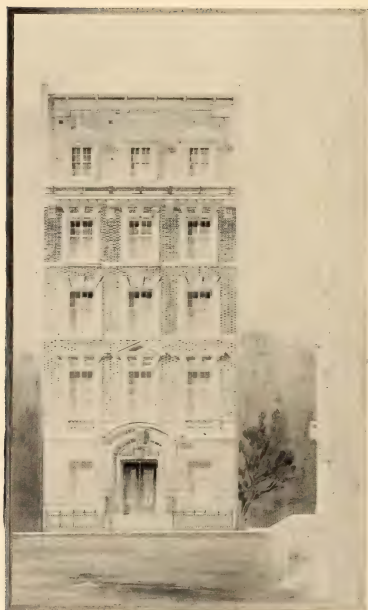
A. B. Boller, C. E., Engineer of Construction.
Executed by Hecla Iron Works.



AMERICAN SURETY BUILDING.

Executed by Hecla Iron Works.

Bruce Price, Architect.



NO. 49 WEST 9TH STREET, NEW YORK CITY.
Howard & Cauldwell, Architects.
(1898.)

LEADING ORNAMENTAL IRON FIRMS.

The Hecla Iron Works.

The pioneer architectural and ornamental iron and bronze working concern in America is unquestionably the Hecla Iron Works, formerly known as Poulson & Eger. To this firm and its successor a great measure of credit is due in having brought about the present high standard of excellence in ornamental iron and bronze work. To the trade and others familiar with the recent advances in this line of work, it has become a truism that all improvements successfully launched for years past emanated from the Hecla Iron Works or their predecessors, Poulson & Eger. In 1876, when the old firm was established, there was but little ornamental iron work manufactured in America, and what little was done was hammered out by hand. Bronze work was a comparative crudity; grille work and the elaborate mesh work of elevator enclosures and stairs were matters that had yet to be evolved. During these early years it is but justice to the subjects of our sketch to say they did not possess a single competitor. To-day they still maintain their reputation of producing ornamental and architectural iron work superior in construction, artistic appearance and finish to any that has yet been manufactured on this side of the Atlantic. Architects and others duly recognize the product of the Hecla Iron Works as the American standard of excellence in architectural iron work, because no efforts have been spared to maintain the vantage which they have held so long.

As has been mentioned, the company is always foremost in the introduction of improvements. The first open elevator enclosure, in which there was the mesh and grille work, now so important a feature in that class of work, was produced by this company. Previous to that time the enclosures consisted mainly of sheet iron, but the open casting which this firm substituted for the sheet iron door became at once a great success. The first iron elevator passenger car with its beautifully ornamented iron work was also built by this firm. It has also introduced metallic finishes, now perfected, which have undoubtedly increased the demand for ornamental iron work. The more important of these are electro-plate finishes, Duplex Electro Plate Finish, Bower-Barff Finish and the Galvano Bronze Work, by which latter process is produced every conceivable kind of ornamental work such as statues, coats-of-arms, commemorative tablets, doors and mouldings, at the same time possessing the indestructibility of bronze.

A partial list of the important buildings in which the Hecla Iron Works have furnished ornamental iron or bronze work includes: American Tract Society Building, New York Life Insurance Co.'s Building, American Surety Co.'s Building, Equitable Life Assurance Society's Building, Corbin Building, Continental Fire Insurance Co.'s Building, Commercial Union Fire Insurance Co.'s Building, United Charities Building, Constable Building, Gillender Building, Lawyer's Title Insurance Co.'s Building, Metropolitan Telephone and Telegraph Co.'s Building, Park Row Building, Singer Building, Produce Exchange, Delmonico Building, Lord's Court Building, Gallatin Bank Building, National Shoe and Leather Bank Building, Corn Exchange Bank, Bowery Savings Bank, Bank of Commerce Building, New York Clearing House, Bank of America Building, Waldorf-Astoria Hotel, Hotel Savoy, Plaza Hotel, Dakota Apartment House, Navarro Apartment House, Chelsea Apartment House, Columbia College Buildings, American Fine Arts Building, Knickerbocker Theatre Building, New University Club Building, Post Office, World Building, Herald Building, Tribune Building, Times Building.

The Hecla Iron Works have also executed work of greatest importance in Baltimore, Washington, Chicago, Pittsburg, Boston, Philadelphia, and for all the prominent architects in the United States.

Richey, Browne & Donald.

A representative company of the highest class among manufacturers of architectural iron and bronze work in the United States is that of Richey, Browne & Donald, Borden and Review avenues, Long Island City. The company was organized on February 1, 1891, at the time when the growth in the use of architectural iron and bronze was no longer considered experimental. The active members of the company, Mr. A. S. Richey and Mr. R. B. Browne, were not unknown to the architects and building fraternity of New York and vicinity, having been connected with the Hecla Iron Works of Brooklyn. They brought with them into their venture all the qualifications which are necessary to success; on the one hand, Mr. Brown possessed a thorough and practical experience in actual draughting and designing, while Mr. Richey brought with him unqualified executive abilities as a financier. The shops at 218 North 11th street, Brooklyn, were outgrown after two years, and the works were moved to larger quarters on the corner of Setauket street and Paidge avenue. The company was meeting with greater success than they had anticipated. Beginning at the bottom rung they were working successfully to the higher ranks; from the first contracts of the architectural iron work of the Rhode Island Hospital and Trust Co, in Providence—a small contract—the company were now recognized as a serious competitor in the largest and most difficult jobs in metropolitan trade. On June 30, 1896, this enterprising company suffered a

total loss of its plant by fire. The blow could have well nigh shattered the business expectations of a much stronger firm than this; in the midst of a large contract, the iron work of the Townsend Building, all the patterns and designs were destroyed; just then bids were being called for two of the largest contracts of architectural iron and bronze work which had ever been specified in America. The company had decided to make a determined stand to secure one or both of these contracts, but now they were seriously handicapped by having no plant. But, Phoenix like, they literally rose from the ashes of their destroyed plant, captured under fire the contract of the architectural iron and bronze in the great Astoria Hotel, and the new edifice for the New York Life Insurance Co., and carried to successful termination the work on the Townsend Building. A few of the important contracts completed by the company are as follows: Castle Square Theatre, Boston; Canada Life, Montreal; Fidelity Mutual Life Association, Philadelphia; Sampson Building, Wall street; Beresford Hotel, Gerard Hotel, St. Luke's Hospital, Empire Building, Manhattan Life Building, all in New York.

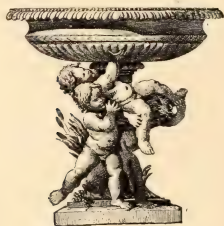
Jno. Williams.

Of the firms engaged in architectural bronze work throughout the United States, there is none whose reputation for first-class work is more generally known than the firm of Jno. Williams, of No. 556 West 27th street, New York. Wherever it is exhibited, whether in the cities on the Atlantic coast or on the Pacific seaboard, if the manufacture bear the imprint of the name of Jno. Williams, the architectural designers know that their designs have been faithfully reproduced and in a manner not to be excelled in this or in any European country.

Like many of our great businesses of the present day, the origin of the firm of Jno. Williams was an humble one. Its head, John Williams, was connected with Tiffany & Co., as a workman in the brass and bronze department over 25 years ago. He had learned the trade and had become a proficient workman, when he began to study the prevailing conditions of the trade in bronze work in New York. A quarter of a century ago its manufacture was limited to chandeliers, sconces, mirrors and a few figures; there was comparatively none of that beautiful bronze work which we now see in our churches, residences and public buildings. France was the market almost entirely from which America bought its bronze articles. John Williams was a characteristic American, possessing both energy, brains and business ability; he arrived at the conclusion that New York should be able to produce the same work that was done in Paris.

In 1872, with four men in his employ, the firm of Jno. Williams was launched. The reputation of its output gradually spread and as a result the growth was steady. It was in the early '80's that architects began to specify more largely the use of bronze for decora-

tive purposes in public and private buildings. The increased demand for architectural bronze work materially benefited the firm and it rose equal to the demands made upon it. The bronze doors, caps and bases, grilles, crestings, gates, bank counters, furniture trimmings produced were equal, and, in many respects, superior to the imported article. In 1887, recognizing the wants of architects for artistic wrought iron work, a department was organized for its manufacture. The success of this department has been fully as great as that of the bronze department, and some of the most beautiful examples of iron work of any country have been produced by the firm. The class of work which Jno. Williams has completed may be judged from the following: The bronze caps of columns of Columbus University Library, probably the largest bronze caps in the world; the doors and candelabra of W. K. Vanderbilt's Marble House at Newport; the two doors of the Congressional Library at Washington; the wrought iron entrance gates to Harvard College; the Mapes Memorial Gates at Columbia University; gates and rail enclosing residence of Mr. Theo. Havemeyer, of this city. These are the highest class of bronze and wrought iron work manufactured in America.



A REVIEW OF ARCHITECTURAL TERRA-COTTA.



IN the spring of the year 1870 a young architectural clay-worker, who had recently landed, was walking up Broadway with a venerable and white-haired old gentleman, who at that time was well known and respected in New York. They were engaged in a study of the various materials used for the exteriors of the buildings on that thoroughfare. The old gentleman was Marcus Spring, a retired dry-goods merchant.

While standing on the east side of the street, looking up at old Trinity Church, Marcus Spring was recognized by an influential and popular architect, who was then conducting an extensive and lucrative practice. To this architect Mr. Spring explained the object of his presence at that place, and requested him to give his professional opinion concerning the probability of success attending any attempt to introduce architectural terra cotta work into New York and its vicinity. The reply was prompt and positive:

"My dear sir, there can be but one opinion upon that subject. It would most surely fail. Terra cotta has been tried over and over again, and every attempt has resulted in loss and vexation to all parties concerned. We know all about that material; it is useful enough in Europe, but it will not withstand the rigors of our American climate. If that young man intends to continue his trade of terra cotta making I would strongly advise him to return to England, for he will find it impossible to earn a living for his family at that trade in the United States. Our architects and builders will most certainly refuse to make any further experiments with the material."

This emphatic opinion, from one who had apparently given the subject consideration, was very discouraging to Marcus Spring. But it did not so impress the clay-worker, for looking over at the Trinity Building, north of the graveyard, he said, "that looks to me

like a brick building, and if brick will stand the climate of New York terra cotta most certainly will, because I hold that terra cotta is only a higher grade of brick-work." The true significance of the value of the Trinity Building in helping to demonstrate the permanent utility of terra cotta was not then apparent, for the grotesque animal heads which form the keystones to the



The First Terra Cotta Building Erected in New York City.
East 36th street, near Madison avenue. George B. Post, Architect.
(1877.)

window arches, and the modillions which decorate the main cornice of the building are actually made of terra cotta, the material being hidden under a coat of paint, which had been used to make the terra cotta resemble brown stone. This very building, therefore, was one of the few *successful* attempts, but our friend, the advising architect, did not know of it or he might have reconsidered his opinion. The terra cotta work used in this building is still perfect, al-



RUSSELL & ERWIN BUILDING.

New Britain, Conn.

McKim, Mead & White, Architects.

One of the earliest buildings in which light-colored terra-cotta was used.

though it has been found necessary to recut the damaged and disintegrated faces of the brown stone work in the walls and mouldings.

Here let us define the difference between "terra cotta" and "architectural terra cotta."

"Terra cotta" is simply "baked earth," a term technically distinct from porcelain; it may be lacquered, painted or decorated in any color to represent various materials. But "architectural terra cotta" presents itself in the natural color which it receives from its constituent ingredients during the process of being burned into an imperishable material. It does not represent any other material, it is not an imitation of stone or iron or wood (although attempts are often made to make it such), it is a recognized building material having its own quality and purpose, and when used ought to be distinctly recognizable. Therefore, although Richard Upjohn did use terra cotta in the construction of Trinity Building in the year 1853, he did not use architectural terra cotta. He simply used a material of burned clay painted to make an imitation of brown stone.

A very earnest contemporary of Richard Upjohn in that early effort to produce terra cotta was Mr. James Renwick, who was an earnest worker and a believer in the value of architectural terra cotta. No one did more than Mr. Renwick to introduce terra cotta work into New York, and one of his most successful efforts still remains in the window trimmings of the St. Dennis Hotel, located on Broadway, opposite Grace Church. No architect recognized the higher claims of architectural terra cotta more thoroughly than he did. It is an interesting fact that Mr. Renwick has been personally identified with all the progressive history of terra cotta work in New York City from 1853. The architectural firm of Renwick, Spinwall & Russell designed very many special uses for this material. One especially good example of decorative terra cotta work is the altar and reredos of St. Mark's Church, at the southwest corner of Avenue B and 10th street, New York. This was made in Boston in about 1882. It is designed in early English Gothic and is exceedingly well executed in both modeling and color. Another design by Mr. Renwick that called for especial care in construction and detail is the Church of All Saints, erected on



RESIDENCE.

No. 55 West 10th St., New York City.

Renwick, Aspinwall & Russell, Architects.

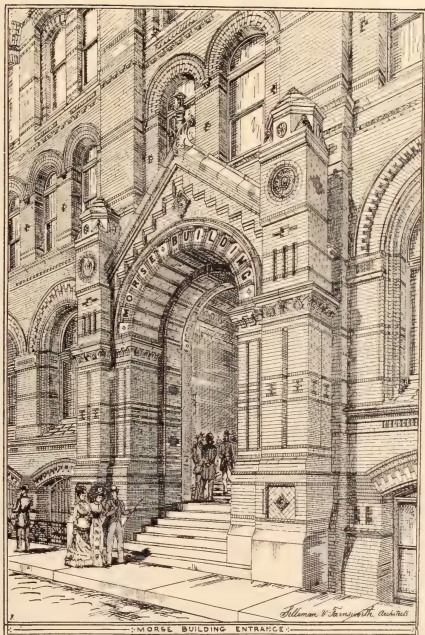
the northeast corner of Madison avenue and 129th street, New York. The traceried rose and mullioned windows, the pinnacles and gables, have all been made of gray terra cotta.

In 1870 the New York architects and builders certainly were not ready for the reception or use of architectural terra cotta, and therefore no organized effort was made at that time to manufacture it in this vicinity; yet old clay-workers, such as John Stewart, of West 18th street; Henry Maurer, of East 23d street, New York; and C. W. Boynton, of Woodbridge, N. J., can very well remember that the subject was submitted to them at the time, and that they agreed with the architect who said it would not do to make any new attempts.

The first American city to welcome architectural terra cotta work was Chicago. The Western metropolis teems with men who, like the Athenians of old, are ever on the lookout for some new thing. The cost of stone, the rusting of iron and the danger of wooden structures to city property led them to cheerfully welcome a material that would conjoin with their vast brick-making industries, and give them a decorative and useful building material.

W. Boyington, John Van Oxdell, Burling & Adler (later Adler & Sullivan), Carter, Drake & White, W. L. B. Jenney, and Burnham & Root, were the pioneer architects who first recognized the utility and advantages of architectural terra cotta. The great fire at Chicago, in 1871, converted the real estate owners and builders to a belief in its usefulness, and they used it very extensively in the rebuilding of the city, so that the manufacture grew in demand rapidly. Especially was this true of the trade in the outlying Western cities, as Des Moines, Omaha, Milwaukee and others—for its light cost for freight and the scarcity of skilled labor rendered it desirable.

In 1877 Architects Geo. B. Post, of New York; Whitney Lewis, of Boston; H. H. Richardson; and Messrs. Stone & Carpenter, of Providence, began to use the material. Messrs. Stone & Carpenter used it for the Brown University and the City Hall in Providence, R. I. H. H. Richardson used it upon Trinity Church, Boston. Whitney Lewis used it upon a large residence on Commonwealth avenue, Boston. G. B. Post used it upon a residence on West 36th



Nassau, northwest corner of Beekman Street. Silliman & Farnsworth, Architects. (1879.)

street, New York. These formed the Eastern foundation upon which the vast architectural terra cotta industry of America has been organized and developed.

To Geo. B. Post belongs the honor of having erected the first strictly architectural terra cotta building in the City of New York. This is located on the north side of West 36th street, near Madison avenue. It was built by Jas. B. Smith, in 1877, and is a good evidence of the weather qualities of terra cotta, all of its detail being as perfect to-day as when it was set up twenty years ago. The ornamentation of this work is worth especial notice, for we believe it to be the only example in New York City of that description of work. It was not modeled as clay ornamental work is generally done, viz., in a plastic condition, but the slabs were formed solid, and when partially dry the designs were carved with wood-carving tools, no hammers being used. Isaac Scott, of Chicago, was the originator of this method of producing ornamentation, and it met with great favor among the Chicago architects. The terra cotta for this building was made in Chicago by the man who, in 1870, had been advised not to attempt to induce New York architects to use the material. New York now has two large establishments employing more than six hundred men. It has more than half a million of dollars of capital invested in the business, and is producing upwards of eight hundred thousand dollars worth of building material per annum. Boston, Baltimore and Philadelphia also have extensive works engaged in the same industry, and there are many small concerns in various places spread all over the United States. All these are the direct outgrowth of the Chicago Terra Cotta Works.

The next step in the progress of this industry was made by Silliman & Farnsworth when they introduced it (in the erection of a large commercial building) in connection with moulded red and black brick-work; this was done in the Morse Building, at the corner of Nassau and Beekman streets, erected in 1879. In this building the raised or protected vertical joint was first used. This form of joint prevents the rain from scouring out the pointing mortar, and it is an important and necessary precaution which ought to be used upon all exposed surfaces.



Brooklyn, N. Y.

LONG ISLAND HISTORICAL SOCIETY.

(1878.)

Geo. B. Post, Architect.



HARRIGAN'S THEATRE (NOW THE GARRICK).

25th St., East of 6th Ave., New York City.

F. H. Kimball, Architect.

(1890.)

When once the architects of New York began to recognize the use of architectural terra cotta they caused a vast amount of development in the production of it. Having no precedent, they made all kinds of demands, such as had not hitherto been required or expected; but these very requirements have tended to lead the makers into new channels, which have produced successful results in regard to color, ornamentation, construction and surface treatment,



New York City. THE PRODUCE EXCHANGE. George B. Post, Architect.
(1888.)

so that now there is no reasonable doubt that architectural terra cotta as it is designed and made and used in America is far better in many respects than the best products of European factories.

The Brooklyn Historical Society's Building was designed by Geo. B. Post in 1878, and it was the first important or public building in which the material was used by a New York architect. This was followed by the Produce Exchange Building, the Cotton Exchange Building, and many others by the same architect, to whom the clay-worker owes a large measure of thanks for his practical assistance in the development of this industry.

The introduction of highly ornamental work in terra cotta was begun by F. H. Kimball and Thos. Wisedell about 1880, when they designed the New York Casino, 39th street and Broadway. In this specimen, which is of Moorish design, it was shown that terra cotta



THE CASINO THEATRE.

Broadway and 39th Street.

F. H. Kimball, Architect.

(1882.)

was capable of elaborate decoration at moderate cost. This capability has been constantly put before the public by F. H. Kimball in the various buildings which he has designed, viz., the Catholic Apostolic Church on West 57th street, which has an elaborate rose window, in which several features were introduced that had not before been attempted in America. The Corbin Building at the corner of John street and Broadway is another example of profuse dec-



DOORWAY OF THE CASINO.

New York City.

Kimball & Wisedell, Architects.

(1882.)

oration of surfaces, which, together with the color of the terra cotta, produces effects at once agreeable and varied, and almost unattainable in any other material. The Montauk Club House furnished still another opportunity for taking advantage of the facility which the use of terra cotta furnishes the designer. The name of the club



CATHOLIC APOSTOLIC CHURCH.

West 57th Street, New York City.

F. H. Kimball, Architect.

(1885.)

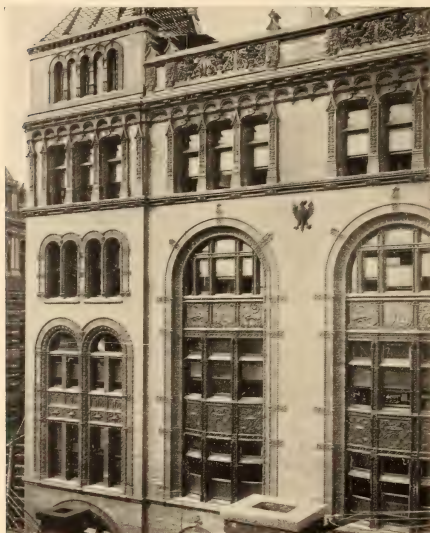
gave an Indian significance to the design which the architect made use of, and the result is an ensemble of Indian trophies and implements utilized in decorative features that are both pleasing and suggestive, while the sculptured friezes enabled the architect to record in a durable material many incidents of Indian life and customs which makes this structure an object of interest to the general pub-



CORBIN BUILDING.

Broadway, n. w. cor. of John Street. F. H. Kimball, Architect.
(1888-1889.)

lic. The facade of the Garrick Theatre was treated in the same spirit, and subjects connected with Mr. Harrigan's successes were used as motifs for the decoration. For this purpose there is no other material so useful to the architect, because it permits of



UPPER STORIES OF CORBIN BUILDING.

Broadway, n. w. cor. of John Street.

F. H. Kimball, Architect.

the original sketch models being burned and used (a process which prevents the defacement and mutilation incident to remodeling and casting).

The subject of "color" in terra cotta was first brought under consideration by, and it received its present importance from, Eastern architects. Previous to 1877 almost all American architectural terra cotta was of a stone color. Joliet limestone being the Chicago

ideal, grayish buff was the prevailing color of Chicago terra cotta. Eastern architects, however, demanded other colors. Geo. B. Post asked for red, Whitney Lewis called for yellow buff, while Messrs. Stone & Carpenter wanted brown. Thus the old fashion passed away and the polychrome prevailed, and is now the present



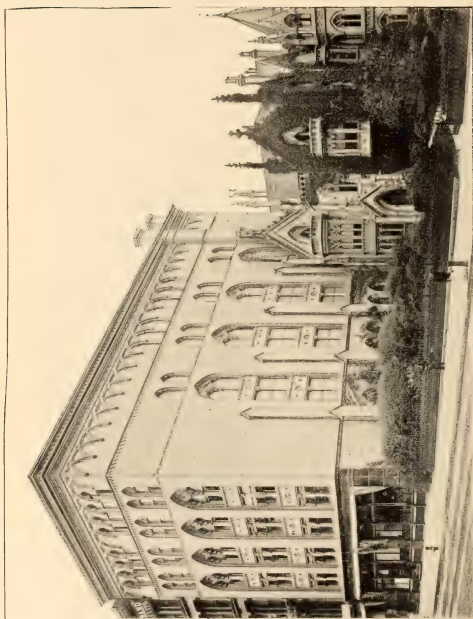
MONTAUK CLUB.

Brooklyn, N. Y.

F. H. Kimball, Architect.

(1890.)

demand. This has done very much towards increasing the demand for architectural terra cotta, and Architects McKim, Mead & White were perhaps the foremost leaders in this branch of the business; certain it is that to them belongs the credit for the introduction of the Pompeian or mottled color which they used on the Tiffany House, also a neutral reddish color used for the Russell & Erwin Building (New Britain, Conn.), and the white used upon the Hotel Imperial, the Madison Square Garden and other buildings.



WAREHOUSE ADJOINING GRACE CHURCH PARSONAGE.

Renwick, Aspinwall & Russell, Architects.

1888.

Broadway, New York City.

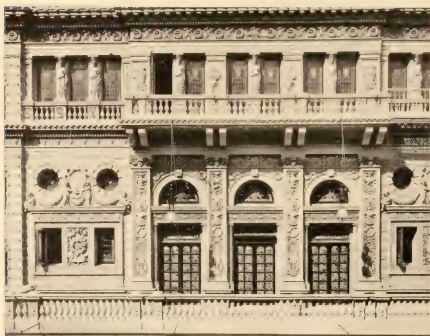
One of the most serious problems in the proper use of architectural terra cotta was the treatment of its surfaces, and this quality has been most successfully developed by Architect Cyrus L. W. Eidlitz. The bold and massive character of his style (Romanesque) forbade the use of the usual old-fashioned smooth surface. Therefore he made a study of the subject, and the result of his efforts was the introduction of the combed or crinkled surfaces, by a method which he personally devised, and which method is now the common property of all clay-workers. It has helped greatly to improve the artistic value and appearance of terra cotta work. This surface treatment was used upon the Art and Library Building in Buffalo which is made of red terra cotta; also upon the Telephone Building, Cortlandt street, which is of a warm reddish buff, and upon the Racquet Clubhouse, which is of dark or so-called Pompeian color. In all of them the advantage of the surface treatment is apparent. It is a truly distinctive feature, which shows clearly that it is done in plastic material and therefore indicates terra cotta work.

Thus have the architects of New York urged on the terra cotta makers, compelling them to new efforts, and in many instances these efforts have been successful, so that by the co-operation of the architects and the clay-workers architectural terra cotta in America is probably in many respects in the van in comparison with older countries.

It would be impossible to mention all the architects who have made this progress and development possible, and we must be content to specify a very limited list of buildings that are especially instructive to the architectural terra cotta makers as suggestive of various matters of detail which may prove profitable to them if examined in an inquiring mood, with a view to the improvement of their processes of production. Such lessons may be learned by a study of the Astor Building, Wall street; the Western Union Building, Broad street; the Schermerhorn Building, corner Great Jones street and Lafayette place—H. J. Hardenbergh, architect; the De Vinne Press Building, corner of 4th street and Lafayette place—Babb, Cook & Willard, architects; the Church of the Messiah Brooklyn; the Railroad Men's Reading Rooms, Madison avenue

and 45th street; the Lincoln, and other office buildings on Broadway, between 14th street and 18th street—R. H. Robertson, architect; the Carnegie or New York Music Hall, corner 57th street and 7th avenue—W. B. Tuthill, architect; the Colonial Clubhouse, 72d street and Boulevard; the West End Presbyterian Church, 105th street and Amsterdam avenue—Henry Kilburn, architect; the Collegiate Church, corner 77th street and West End avenue—R. W. Gibson, architect. Upon this spirit of co-operation depends the future development of this industry, and doubtless it will lead to greater advancement in the future than that it has produced hitherto, because the improvements hoped for are to be based upon so much good work already done.

JAMES TAYLOR



UPPER STORIES OF FIFTH AVENUE THEATRE.

New York City.

F. H. Kimball, Architect.

(1891-1892.)

LEADING TERRA-COTTA FIRMS.

Celadon Terra-Cotta Company, Limited.

Charles T. Harris, Lessee.

The Celadon Terra-Cotta Company, whose works are located in Alfred, N. Y., is recognized as the producer of the best roofing tile made in either America or Europe. The company was established in October, 1888, with a capital of \$10,000; since that time its paid up capital has been increased to \$150,000. The prominence which the product of this company has attained is due in a great measure to the connection of Mr. George H. Babcock, the famous American inventor, with this company. He interested himself in the improvement of the roof tiling industry in this country and studied the uses and application of the roof tile in Southern Europe, where it is so largely used. On his return he patented over twenty different styles and designs of tile. In 1891, he became president of the company and continued in that position until his death, in 1894. He invented machinery for making tiles which has never been excelled, and with which in fact none has ever compared. The results have been that the Celadon Terra-Cotta Company manufacture roofing tiles superior in design and manufacture to that of any ever produced. In 1894, the patents, property and good will of the company was leased by Charles T. Harris, of Chicago, who had been identified with the roofing tiles made in this country for fifteen years, and a copartnership was formed with William R. Clarke, who had been connected with the company since its inception. The New York office is at No. 156 Fifth avenue.

Excelsior Terra-Cotta Company.

The Excelsior Terra Cotta Company, of No. 287 Fourth avenue, is one of the large terra cotta manufacturing concerns in Eastern United States. Its plant at Rocky Hill, New Jersey, is equipped with all possible facilities, with the result that it is thus enabled to handle any contract with the utmost dispatch. The company manufactures architectural terra cotta exclusively, and the product of the Excelsior Terra Cotta Company's plant may be seen in many of the prominent buildings, not only in New York, but in Boston, Philadelphia and other cities. In New York, the terra cotta used in the Commercial Cable Building on Broad street, of which Harding & Gooch are the architects, is the product of this company. Some of

the principal buildings completed in New York City by this company are as follows: The Commercial Buildings on Broadway, between Waverley place and Washington place, Robert Maynicke, architect; addition to Carnegie Music Hall, 56th street and Seventh avenue, W. B. Tuthill, architect. In Philadelphia the company has completed the Philadelphia Dental College and the Dobson Building. The Boston office, which controls the New England trade, is located in No. 3 Hamilton place. In Boston, the Converse Building, of which Winslow & Wetherill are the architects, has been completed by this company. It may be added that in Lynn, Hartford and New London several large and important contracts were completed.

Standard Terra-Cotta Company.

The Standard Terra Cotta Company, of No. 287 Fourth avenue, was incorporated in 1892. It was the outgrowth of the Architectural Terra Cotta Works, which had been organized as a firm the year previous. The company began with modest resources, but with practical and energetic business men at the helm. In the short time it has been before the building world, it has acquired a reputation for honorable dealing and business integrity that has placed it on a substantial basis. The officers of the company are: Albert Bollschweiler, President; H. P. Engelhardt, Vice-President; Jacob G. Gerns, Secretary; George Haar, Treasurer. The output of the works, which are located at Perth Amboy, N. J., consists entirely of architectural terra cotta in the various colors that are used. The equipment of the plant is such that the largest contracts can readily be handled. As examples of the class of work done by the Standard Terra Cotta Company, there are the Jefferson Building, on 23d street, of which Wm. Schickel & Co. are the architects; 10 residences in Brooklyn, R. H. Robertson, architect; seven-story mercantile building in No. 37 Great Jones street, Bruner & Tryon, architects; Nos. 586-590 Broadway, Buchman & Deisler, architects; Newark Gas Company's Building, Newark, N. J., H. J. Hardenberg, architect, and about fifteen of the public schools recently completed. The Standard Terra Cotta Company is now regarded as among the largest in the East.

New Jersey Terra-Cotta Company.

The New Jersey Terra Cotta Company, of No. 108 Fulton street, was organized in 1888, Mathiasen & Hansen being the name of the firm until 1893. The Matawan Terra Cotta Company, of Matawan, N. J., is also controlled by this company. Karl Mathiasen is president of both companies and E. V. Eskesen is secretary and treasurer. The company has furnished architectural terra cotta for many prominent buildings throughout the Eastern States.

Perth Amboy Terra-Cotta Company.

The Perth Amboy Terra Cotta Company, of No. 160 Fifth avenue, is the pioneer terra cotta manufacturing concern in this country. The various stages in the development and perfection of terra cotta can be traced directly to this company, and many of the now competitive terra cotta producers have been graduated from its employ. It is the largest firm in the United States, with a reputation extending from coast to coast, and its product enjoys the distinction of being particularly specified by the leading architects in various large American cities. The company has been in existence since 1846, but it was in 1879 the present company was incorporated for the manufacture of terra cotta. It completed the first important contract of terra cotta in this country—that of the Long Island Historical Society Building in Brooklyn, of which George B. Post was the architect. Since that time it has completed the largest and best class of terra cotta work in Eastern United States. Some of the best examples of the company's manufacture are to be seen in the New York Produce Exchange, the largest single contract of terra cotta yet executed, the Madison Square Garden, Metropolitan Opera House, Park Row Syndicate Building, the New York Life Buildings in Omaha and Kansas City; Ponce de Leon Hotel, in St. Augustine, Fla.; Safe Deposit Co., Chicago; Harrison Building, Philadelphia. The contracts mentioned are but representative; the class of work usually done may be judged from the fact that the company are looked upon as the most responsible terra cotta producers by such architects as Carrère & Hastings, R. H. Robertson, George B. Post, McKim, Mead & White, Bruce Price and Cope & Stewardson, of Philadelphia; Cyrus L. W. Eidlitz, of New York.

The officers of the company are Edward J. Hall, Jr., president; William C. Hall, vice-president and general manager; George P. Putnam, secretary and treasurer. The works are located in Perth Amboy and are the largest in the United States. The gradual growth of the Perth Amboy Terra Cotta Company may be gauged from the fact that in the commencement of the manufacture of terra cotta, in 1879, only three kilns were used, and at the present time the company operates forty-six kilns. The plant and yards, equipped with the best that capital and science has yet devised, cover eight acres, while the clay banks extend over one hundred and seventy acres. There are as yet none who have in any respect become a serious competitor of the Perth Amboy Terra Cotta Company. They stand alone as the representative of the highest class in the manufacture of terra cotta. One of the best examples of recent terra cotta work being executed by this company is the Church of the Holy Trinity, in East 88th st.



PUBLIC SCHOOL.
(Now building.)

C. B. J. Snyder, Architect.

108th St., bet. Amsterdam Ave. and The Boulevard.

ARTISTIC HARDWARE.



UNTIL about twenty years ago, no real attempt had been made to give any artistic character to the metal work used in buildings in the United States, or, indeed, to any metal work whatever. The cast-iron stoves were often crowned or incrustated with what the makers of them imagined to be ornament. But nothing could be cruder, more inappropriate, or to an educated taste, more offensive than these applications. They were even cruder than the British product of the same period, and it was doubtless the crudity of this product that led Ruskin to say that "no ornaments are so cold, clumsy and vulgar, so essentially incapable of a fine line or graceful shadow, as those of cast iron." As we shall see, the critic spoke, as he has so often done, in his haste, and transferred to the intractability of the material what was really the incompetency of those who had undertaken to handle it for any purpose but that of strict utility. Cast iron, setting aside its liability to oxidation, is as available a material, as "capable of a fine line or graceful shadow" as cast bronze, and as available not alone for purposes of ornament, but as the Russian founders have shown, even for figure-sculpture. Forty or even thirty years ago the American who was sufficiently cultivated to be revolted by the false pretence of art in the metal fittings of his house had no resource but to deny himself any pretence of art, and to take refuge in an absolute simplicity, which was only the absence but not the negation of the artistic element. In costly houses the hinge plates and door knobs and escutcheons showed plain surfaces of metal, of which the utmost pretension was to be silvered when they were applied to the solid ma-



About 1870.



About 1872.

hogany doors of the period. In the less conspicuous rooms the knobs and their roses were of brass, or still oftener, of smooth white porcelain. The effect was not in the least artistic, but it was highly respectable. Meanwhile, it was the cheaper work which was known to the trade and to the public as "fancy." In this it was attempted to make up for the lack of evidently costly material by the addition of ornament. This was not art for the reason that, as has been well said, "art is something done by an artist." This ornament was designed by the pattern-makers who were entirely untutored either in the principles or in the historical examples of ornamental

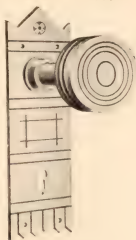
design. They were as incapable of conventionalizing natural forms with due regard to the purpose of the design and the material of which and the processes by which it was to be executed as they were ignorant of the distinguishing features of historical styles. Their work accordingly could be neither pure nor peaceable, and could have none but a degrading effect upon the taste of those who had its results continually before their eyes. It is only "something done by an artist" that can educate the public taste to demanding something better than is supplied to it, and in this department there were no artists at home, and no examples imported from abroad and so exhibited as to have any educational effect upon manufacturers or purchasers.

Up to 1870, it may be said almost without reservation, there was no choice for the purchaser of hardware except between work which was simply unrelated to the sense of beauty and work which was revolting to it. In order to see what the state of things was, it is necessary to resort to illustration. It is unnecessary to reproduce any of the plain unpretentious and inoffensive work for the reason that there is nothing in it to illustrate, and also for the reason that it continues to be made and to enjoy a considerable vogue. There are cultivated but timid owners who desire to be on the safe side, and who are con-



About 1876.

scious that entire simplicity is safe. They know that it is inoffensive and that what used to be the "fancy" articles submitted to them in this line are abominable, and they are unaware that positively artistic and attractive work is to be had. If the choice were still between work negatively inoffensive and work positively repulsive, they would be quite right. It would be a mistake to suppose that such work has been altogether expelled. In some very recent trade catalogues "fancy" hardware, as crude at that of 1870, continues to be offered, and to be offered at high prices, and obviously it would not continue to be offered if it did not continue to be demanded. Again, there are architects who, although they can scarcely help being aware that there is now a choice between what is inoffensive and what is attractive as well as between what is inoffensive and what is repulsive, do not take advantage of their knowledge, and are still content to be "safe."



About 1876.
"Eastlake."

Although the crude and unconsciously grotesque "fancy hardware" of the last generation continues to be made, it is no longer familiar to those who would be likely to be offended by it. Some typical examples are accordingly presented, culled for the most part from old trade catalogues, but some also, as will be seen, almost as bad as the worst, from catalogues found almost within the present

decade. It will be seen from the illustrations that these attempts were as irrational as they were inartistic, and that the most suitable and convenient forms which were adhered to in the common commercial work were abandoned in the fancy work for forms that were practically inconvenient. Rather, their irrationality was a part of their ugliness. A great critic has said "a thing has style when it has the expression appropriate to the uses," and this expression, though it may be heightened by modelling and decoration, cannot be



About 1877.



About 1878.

attained at all unless the object has in the first place the form appropriate to its uses.

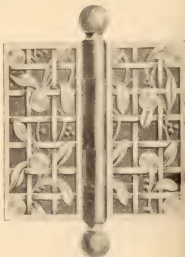
It was in 1870 that the first definite promise of better things was made. This was in the work of the Russell and Erwin Manufacturing Company. It consisted, as is evident, in the employment of a trained designer, in the first place, to rationalize, and, in the second place to decorate, the forms which had been in the first place distorted and in the second defaced, with no more rational or artistic purpose than to produce something "fancy." Function, material and process are recognized in these essays and that recognition is the beginning of progress. These early attempts may now seem crude enough, but it is to be borne in mind that the vast improvement which has been since effected is not alone an advance in design. It is an advance also in the mechanical execution of the design, in which mechanical labor has risen into artistic craftsmanship. This advance is dependent upon the coöperation with the artistic designer of an enlightened manufacturer who is willing to take trouble to secure better results, and to make expenditures upon experiments, and the process takes time as well as trouble and money.

Undoubtedly, however, the main stimulus to the Renaissance, or, rather, the "Naissance" in this country of artistic handicraft

in this branch, as in so many other branches, was the Centennial Exposition of 1876. The notion that the general design of a dwelling might be carried into its details and fittings, so that all the parts should be "of a piece" was practically new to most visitors. Only in churches and public buildings, especially in churches, had it been attempted theretofore, and even in these it had



About 1880.



About 1884.



About 1887.
School: French Gothic

been very imperfectly performed. It was precisely in the particular of metal fittings that the shortcomings were most manifest, and this for the reason that the architect had not had the co-operation of the manufacturer. In masonry and in woodwork the designer could secure the execution of his design. But in cast metal the cost of a special set of castings for an ordinary dwelling house or commercial building was quite prohibitory. The architect, even when he was consulted, was forced to limit himself to what could be found "in stock." As

there was nothing there that was exactly suitable to his purpose, he was forced to abandon the attempt to make these fittings a positive enhancement of the effect of his work, and taking refuge in the plainest and simplest objects that could be had, to content himself with the humbler attainment of mere inoffensiveness.

The first essays in the direction of making the hardware of a house conform to its furniture and fittings were not very successful, for the reason that they were experiments in a passing fashion. The Gothic revival was at that time in full possession of the architectural field in England, and commanded also the sympathy of the most thoughtful and progressive American architects. But the attempt to apply the principles of Gothic art to furniture constructed by modern methods had resulted only in what was called "Eastlake furniture," which was even then suspected and is now generally recognized to be ugly and cumbrous. The Eastlake hardware was an improvement upon what had preceded it in that it was designed with reference to the materials and the process employed, but its forms failed to commend themselves as beautiful or appropriate and now appear hopelessly antiquated. Nevertheless, in so far as they proceeded from a real consideration of material and function they contained the germs of progress. Later work upon the same lines showed a real development, and it continued to be made by some firms and with

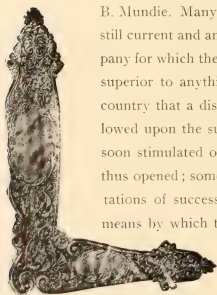


About 1890.
School: Romanesque.

increasing success down almost to the present decade. But meanwhile a much more comprehensive movement had been begun, and it had been begun under happier auspices. That is to say, it was marked by the co-operation of artistic designers and of manufacturers who were willing to take trouble and spend money in securing artistic results. It was about 1883 that the Romanesque revival, stimulated by the success and vogue of the works of Richardson had begun to make its way over the country and had enlisted the active-minded and progressive young architects, the successors of those who, in the previous decade, had given themselves to the advancement of Victorian Gothic, and in some cases the same persons. The Romanesque had taken almost undisputed possession of the West, and along with those of its practitioners who followed it simply because it was the fashion, there were others who believed in it, and who were earnest in following out its possibilities. Chicago was the centre of this cult in the West, and several of the most capable of the designers of Chicago became interested in the efforts of the Yale and Towne Manufacturing Company to produce much more artistic work in cast metal than had been produced theretofore. Among these were John W. Root, Louis H. Sullivan and W.



About 1891.
School: Colonial.



B. Mundie. Many of the designs procured from them are still current and among the standard products of the company for which they were made. They were so manifestly superior to anything that had been done before in this country that a distinct demand for artistic hardware followed upon the supply of it. The demand thus created soon stimulated other manufacturers to follow the lead thus opened; sometimes through more or less direct imitations of successful designs, more rarely by the same means by which those designs had been produced; that is to say by the employment of competent designers.

But, although the results of this employment were so gratifying

About 1894.
School: Italian Renaissance.



Fig. 1892.

School: It. Renaissance, with the workman; when he does his designing in the factory in which it is to be executed, and acquires by daily contact an intimate, almost an intuitive, knowledge of the possibilities of the means by which his design is to be reproduced. This is the first condition of progress in industrial art. Moreover, in cast work there is necessary the intervention between the design and the product of a sympathetic and highly skilled artisan in the modeller, whose intelligent co-operation is required for the interpretation of the design. After the casting is produced, hand work is again brought into requisition for the finishing touches. In work of the highest class, and also necessarily of the greatest cost, there is scarcely any limit to the extent to which this finishing work may be carried. When handchasing is applied by an artistic artisan without restriction of time or money, the result even of a casting is an original work of art. But evidently for the production of such work by modern industrial methods, it is necessary that the employer should himself be appreciative of the value



A bout 1895.
School: E mpire.



About 1895.
School: Louis XIV.

of artistic effect, and willing, as has been said before, to bear the expense of experiments towards improving them. When all these conditions concur, the result is the closest approach possible in our modern wholesale and commercial production to the art work of ancient craftsmanship. Happily, all these conditions concurred in the case of the Yale and Towne Manufacturing Co., the unchallenged pioneer in the production of artistic hardware in America, and as a consequence the work of this kind produced here within the present decade by them, and others who have followed them, far surpasses in artistic merit that produced in any other country, excepting only in France. France is our only competitor in quality; in cheapness of production, and, therefore, in general acceptability, there is no competition, so much larger is here the use of labor-saving machinery, and so extensively has it been invoked by American manufacturers without detriment to the artistic quality of the product.

In range and variety there is no comparison between what may be seen in the catalogues or in the show-rooms of the leading American manufacturers. The advantage on the part of the American manufacturers in variety of design comes in part from the much greater variety of the architectural styles habitually employed by American architects. While in Europe the different rooms of a dwelling of much pretension may be finished in different styles, or in distinct modifications of the same national styles, there is no such variety, either in domestic or in commercial architecture as obtains in this country. Greek, Romanesque, Colonial, Moorish, several phases of the Gothic and several national varieties of the Renaissance, with several subdivisions of each, are all current modes of building to any one of which the interior fittings may



School:
It. Renaissance.

be required to conform. Of each of these there are to be had the objects of which "builders' hardware" consists, designed and executed with archaeological accuracy and with high artistic skill. Considering the fewness and simplicity of these objects, escutcheon plates, knobs, handles, hinges, etc., the wealth and profusion of design which have been applied to them are wonderful. The choice is no longer, as formerly, between things plain and merely inoffensive and things "fancy" and revolting. It is a choice between adornments that are positively attractive, and the sum of which constitutes one of the most striking and successful of American achievements in "applied art."

Although twenty years almost covers the period of this artistic development, it has had many phases. At

the beginning of it the best that could be had in this way was a costly material treated with the utmost plainness. The refuge is still regarded as the only safe one in some parts of the United States, and, rather curiously, especially in Boston, where the artistic treatment of common objects might have been expected, if anywhere, to receive a welcome. As a matter of fact, the West, which, as we have seen, was very largely concerned through its designers, in the production of this phase of household art, is still much in advance of the East in its appreciation.

Costly materials, even the precious metals, are still employed, but even in these "the workmanship surpasses the material," and equally beautiful results are obtained from the humbler metals. The dictum of Mr. Ruskin, which we quoted at the beginning of these remarks, has been triumphantly refuted by the work of American foundries. Bronze is still the metal most employed, but the adaptation to ornamental hardware



About 1896.
School: French
Renaissance.



School:
Romanesque

of the Bower-Barff process, which, if it does not render iron absolutely "rustless," at least very greatly retards and mitigates its oxidation, has given to cast-iron a new availableness. This adaptation was successfully made, after a series of experiments, by the Yale and Towne Company, and unpainted and confessed cast-iron thereupon became a noble as well as a useful metal. In beauty of surface, in plasticity, in "capability of fine line and graceful shadow," it appears, for places and purposes to which its use is appropriate, the most beautiful of all. This peculiar beauty it owes to the "dead

finish" which it is especially capable of receiving and to the successful efforts which have been made to attain a characteristic treatment in design as well as in the details of execution.

The variety of surface finish which has been attained is one of the most remarkable results of the artistic development. When this began, the one surface finish employed was the glittering generality of a plain burnished surface, brass or bronze, and in work of especial pretension and costliness silvered. For the cheaper work the surface was japanned, with bright ornament, relieved against a dull matte. Now, except in iron work, a choice of three finishes is offered to the purchaser. The first is burnished as before, the second, a dead finish, and the third a texture given by the employment of the sandblast, which is in some cases and with appropriate designs the most attractive of all. There is also a "clouded" effect obtained by staining, and when this is applied to copper or bronze in conjunction with the variety of surface obtained as already explained by a simple manipulation of the mould, a well-designed object takes on a picturesque and antique appearance. The word bronze, as em-



About 1895.
School: Elizabethan.



About 1895.
School: German
Renaissance.



About 1892.
School: Colonial.

ployed in this industry, connotes a great variety of effects, extending apparently to the substance itself. In some cases this variety is due to a real difference in material resulting from a difference in the proportions of the ingredients of the metal. In others it is the result of a chemical treatment of the surface. The brown "statuary-bronze," so called, appears as quite a different material from the yellow metal more commonly denoted. But perhaps the greatest achievement in the treatment of bronze is the imitation by chemical process of the patina which is the result in antiques of the slow verduring of time. It is scarcely fair to describe it as an imitation. Rather, it is a reproduction, obtained by chemical agencies which apparently repeat and accelerate the process of time. In the Bower-Barff

process of treating iron, the whole material undergoes an actual chemical change which protects it against oxidation. The patina artificially produced upon bronze is a deposit which affects the surface only: but the evidence seems to be that it is the same patina as that produced by centuries of exposure. The common imitations of this patina by pigment are untrustworthy, transient, and some of them seem to be actually dangerous to health. The patina chemically produced is the thing itself. It may be produced in several different ways, and with corresponding differences of effect, and it is one of the highest achievements of the American development of artistic hardware, which in turn is one of the most important contributions of this country to the advancement of industrial art.

MONTGOMERY SCHUYLER.



About 1893.
School: Louis XV



ENTRANCE TO THE METROPOLITAN CLUB.
McKim, Mead & White, Architects.
Fifth Avenue and 69th Street.

PROGRESS IN LOCK-MAKING AND ART METAL-WORKING.

OF these two allied arts, rightly classified among the many handmaids of architecture, the first has been revolutionized and the second practically created during the period since 1870.

Lock-making in America has largely been influenced by national character and environment. The locks first made here naturally followed European practice, but almost from the beginning a differentiation began by the substitution of cast for wrought metal. The European locksmith has always worked chiefly in wrought metal, fashioning it by hand into the finished product, whereas in America the higher cost of labor has precluded the employment of artisans of this type and compelled resort to less costly methods of production. Influenced by these facts, the American lock-maker turned naturally to cast material in place of wrought, stimulated thereto by the superior quality of American cast iron. This change of material greatly reduced the cost of production, and soon led to changes in design from which was developed the now familiar American type of lock. The methods of production thus adopted minimized labor by producing in the foundry castings practically ready to be assembled and requiring only a trifling amount of drilling, filing or polishing to convert them into finished locks. But few machines were required, and these of the simplest character. The product was handsome in appearance, of good mechanical action and admirably served its purpose. Thus stood the art in 1870. The leading lock makers desired and sought steadily to improve their product, but unfortunately influences were at work to pervert their methods of manufacture and to deteriorate the product. Competition, always active, prompted efforts to reduce the cost which ended in great debasement of quality, especially in the cheaper grades of goods, and under these conflicting influences the mechanical advancement of the art halted.

At about this time there was quietly introduced in the American market a novel lock product destined to revolutionize the industry. This was the outcome of the invention, by Linus Yale, Jr. (then the leading American maker of Bank Locks), of a key-lock for general use



FIG. 1.

of the type now known throughout the world as the Yale Lock. Its most striking feature was its key, the original form of which is shown by Fig. 1. The mechanism of this lock precluded its production by

ordinary methods and necessitated the employment of machinery of the same type as that already adopted in the manufacture of firearms, sewing machines, etc. The makers of the Yale Lock were therefore forced to evolve new methods of production suited to the new product, and this fact in turn had a marked influence upon the product itself. The new product was thus subjected from the outset to two dominating influences, emanating from the characters and aims of the men by whom the enterprise was started, viz., that resulting from the application of new ideas and inventions involving radical departures from accepted lines of construction, and that resulting from a higher ideal of mechanical execution and the utilization for this purpose of improved machinery and processes.

The standards adopted in connection with the new product thus begun have since been so generally incorporated into American practice as to call for a brief reference to their origin. The new industry was organized in October, 1868, at Stamford, Conn., by Linus Yale, Jr., and Henry R. Towne. The former died prematurely in December of the same year and the enterprise, under the corporate name of the Yale & Towne Mfg. Co., has since been conducted by the latter as President; its work, which originally required only thirty employees, now requiring, under normal conditions, over fifteen hundred, and its products now embracing a vast variety of articles.

The fundamental features of Mr. Yale's invention were (1) a small flat key; (2) the combination of this key with pin-tumblers; (3) a tumbler case or "cylinder" bearing a fixed relationship to the surface of the door and connecting with the bolt work in the lock case; and

(4) the adoption of heavier parts and better proportions in all important details. Among the many features since added by those who have carried forward the work so well begun by Mr. Yale are (5) the adoption of a high standard of mechanical design; (6) the employment in manufacture of the most modern machine tools and processes, and (7) the application to the visible parts of locks and other



FIG. 2.

hardware of the true principle of decorative art, which was accomplished by seeking the co-operation of architects and other professional designers in this field.

The original flat key of Mr. Yale was superseded about 1882 by the improved Corrugated key, shown by Fig. 2, and this in turn, about 1892, by the still better "Paracentric" key now used with all genuine Yale Locks and shown by Fig. 3.

The principal features of the Yale system, the "cylinder," pin-tumblers and key, are shown in their proper relationship by Fig. 4.



FIG. 3.

At first conditions involved implied, unavoidably, much higher cost for the Yale Locks than for those of ordinary character, but this difference has steadily diminished until to-day the Yale Lock is the accepted standard for all uses where excellence or security are the requirements. Recognizing the fact that, for many uses, locks of less elaborate character are needed, the makers of the Yale Lock undertook, years ago, to elevate the



FIG. 4.

character of common locks by designing and making a complementary line of Builders' Locks having the same high quality of design and workmanship as the Yale Lock, but comparing in cost with locks of the ordinary type. To this end they introduced, about 1873, the line of "Standard Locks," the features of which, proving to be sound and

correct, have since become a standard in the trade and have been reproduced more or less closely by all of the leading manufacturers, and about 1890 made a further advance by introducing a mortise door lock made of Wrought Steel in place of Cast Iron, which immediately proved popular and was quickly followed by a line of wrought metal locks made by the Russell & Erwin Manufacturing Company, which also have enjoyed large sale. Still later the Warner Lock Company introduced a very attractive line of wrought steel locks, the popularity of which has confirmed the soundness of this change in material. Recently the Yale & Towne Manufacturing Co. has made a still more radical advance by the introduction of its line of "Vulcan Locks," in which every part is formed of wrought material, made by machine processes and therefore interchangeable, and which embodies also improvements in lock mechanism almost as radical as those of the original Yale Lock. Other lock makers have followed many of the leads thus opened, and the whole product stands to-day on a higher plane of design and execution than ever before, and the work of American lock makers easily excels that of all others.

Coincidentally with the development of the art of lock-making in America during the past twenty-five years, which has been traced in outline above, there has occurred an equal, and in some respects more surprising, development in the application to the hardware of ornament (especially to that used with locks), of true principles of artistic design. This subject is discussed elsewhere, and by more competent authority, as to its artistic qualities and affects, but a few words concerning it may be permitted here as to the mechanical developments which made it possible.

The earlier efforts at decoration in hardware were feeble, crude and meretricious. Credit is due to the Russell & Erwin Manufacturing Company for being the first to perceive the opportunity for better things in this field and, by the introduction of their designs in "Compression Bronze," about 1872, to introduce ornamental hardware thoroughly excellent in design and admirable in execution. A little later further progress in this field was made by Hopkins & Dickinson, but for some reason, possibly because the time was not yet ripe, these early efforts were not persisted in and the advance was not main-

tained. The stimulus of the Centennial Exhibition in 1876 upon American art was speedily felt, however, in the field of hardware, and soon resulted in a development of far-reaching character, described elsewhere by the authority above referred to. In this, as in the line of mechanical advancement, the Yale & Towne Manufacturing Company took the leading part, being greatly aided by the improved methods of production which it had been forced to devise in accomplishing the improvements in design, workmanship and finish embodied in its mechanical products, as already explained. Aided by that experience, it found effective means for producing economically the elaborate, beautiful and varied work of decorative character suggested by the drawings of the architects and skilled designers whose professional assistance it sought. In the attainment of this end it made use of all the processes and appliances known to the arts of the modeller, the molder, the chaser and the finisher, supplementing them wherever advantageous by those of the metallurgist, the mechanic and the chemist.

Out of this union of old-world skill and training in the decorative arts, and of new-world ingenuity and facility in the mechanical arts, has sprung an entirely new product, rivalling in artistic qualities the best work of the past and produced at a cost which makes it available for almost every purpose of use or embellishment, thus bringing, in this field of decoration, the true principles of art literally to the doors of all classes in the community, and thereby contributing in no small degree to the education of the people, both in the appreciation and the employment of true art in all its forms.

We have mentioned here only the names of those who have been leaders in the evolution of American locks and hardware during the past twenty-five years towards higher mechanical and artistic excellence, but the efforts of these leaders have been greatly stimulated and re-enforced by those of their competitors. It is true that interested motives underlay these efforts, but in a certain sense that statement applies equally to all artistic work, and credit is none the less due to those who have borne their part in the advancement of this important national industry whose record we have endeavored to trace in this brief outline.

HENRY R. TOWNE.

LEADING HARDWARE FIRMS.

Russell & Erwin Manufacturing Co.

The Russell & Erwin Manufacturing Co., of No. 43 Chambers street, is one of the foremost hardware producing concerns in America. It has in a great measure been instrumental in developing the trade in artistic builders' hardware, to which branch its special attention is given. It has not only kept pace with the wonderful development of architectural detail in builders' hardware, but it has been among the van in creating a demand for special and original designs.

The works of the Russell & Erwin Manufacturing Co. are located in New Britain, Conn., where 1,600 hands are employed; a branch plant is also operated in Dayton, O., and offices are situated in London, Eng.; Philadelphia, Baltimore, Chicago, and the main office in New York. The export trade is very large, and the high grade of goods produced by this firm is as well recognized in Europe as in America. Nearly sixty years have elapsed since the establishment of this concern as a firm, and in 1851 it was incorporated under its present name. Pioneers in the production of wrought steel door locks, which have now become so widely used, the company has always maintained a progressive supremacy in the general hardware trade. The directors are William G. Smythe, George J. Loughton, Louis H. Wales, Andrew J. Soper, Frank L. Hungerford, Frederick N. Stanley, Daniel R. Howe, R. W. Parsons, Frederick P. Wilcox. Mr. George J. Loughton is President; Louis H. Wales, Treasurer; Theo. E. Smith, Secretary; Isaac D. Russell, Assistant Secretary.

The Mallory-Wheeler Co.

The reputation of the Mallory-Wheeler Co., manufacturers of door locks, door furniture and padlocks, is continental. The product of this concern can be found all over the United States, not only on account of its long establishment and connection with the trade, but by reason of the unquestioned superiority of the articles manufactured. The plant of the company is located in New Haven, Connecticut. The business which was established in 1834, is now the oldest lock manufacturing one in this country.

The main office from which the trade is directed is located in New Haven.

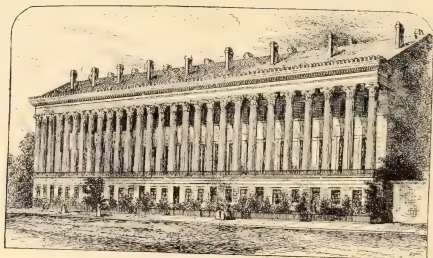
Sargent & Co.

Sargent & Co., who are about to remove to 149-153 Leonard street, are one of the largest hardware firms in the world. The business was established in 1852 by the brothers, Joseph B. and George Henry Sargent, and has gradually grown to its present enormous extent. Their factory in New Haven covers eight city blocks, and is a thoroughly complete and "up-to-date" establishment, where almost all varieties of hardware are made, with special attention given to builders' hardware in all the different styles and designs of the present time. They are always at the front!

White, Van Glahn & Co.

The hardware establishment of White, Van Glahn & Co., of Nos. 15, 16, 17 Chatham Square, is one of the city's landmarks. It was established in 1812, and has never moved from that location. Several generations have managed the business and have maintained for the establishment a reputation which only age and honorable dealing can attain. At the present time Edward C. Van Glahn is the general manager. The company makes a specialty of builders' hardware, their show rooms of which is generally considered to be the finest display of that branch of hardware in the city. They have furnished such buildings as the Central Syndicate Bldg., Sampson Bldg., Woodbridge Bldg., Lord's Court Bldg., Hoffman House, Daniel's Bldg., Sheldon Bldg., Stevens Bldg., besides a large number of churches and private houses.





Lafayette Place.

COLONNADE ROW.

Alexander Jackson Davis, Architect.
(Built 1836.)

A REVIEW OF ARCHITECTURE.

*HISTORY OF WORK DONE IN NEW YORK CITY
DURING THE LAST QUARTER OF A CENTURY*

SOME persons, whose opinion of such matters we must always respect, declare that Architecture with us is not a living art, in the sense that Painting and Music are living arts, and that, therefore, it is worth but little attention. Probably few will deny that this opinion is in great measure correct. There would be something hazardous, the most confident admirer of modern architecture must feel, in selecting even a single building in New York City as indubitably of permanent, intrinsic value as fine art.

But, if Architecture as an enduring expression of the Beautiful is dead, there is another sense in which it is as truly alive. Unquestionably, it is a very vivacious, contemporaneous document. It speaks the vernacular of our particular day as faithfully as ever Gothic spoke that of the Middle Ages, or Doric that of the noon-time of Greece. To be alive in this manner, and so to breathe with the multitude the air of the street, may be to live poorly and dully and ineffectively, but, distinctly, it is to live, and, therefore, to be of some historical importance.

Now, if we recognize that Architecture in New York City during the last generation has been "alive" in this sense, we are prepared to find that its development has been directed, if not controlled by the dominant factors of the history of the period.

Whether a work of art, or the art of a school, or of an age can be accounted for sociologically, that is, by a study of the prevalent circumstances under which it was produced—the "general condition of mind and of surrounding customs," to use Taine's famous formula—is contestable, no doubt; but nobody who will study the development of Architecture in New York City during the last quarter of a century will fail to observe how completely it reflects the chief social facts of the time—the great growth of population, the amaz-



CONTINENTAL BANK BUILDING.

Nassau Street, New York City.

(1865.)

Leopold Eidlitz, Architect.



NEW YORK LIFE BUILDING.

Broadway, s. w. cor. Leonard Street.

Griffith Thomas, Architect.

(As planned in 1868. Was remodeled in 1870.)



PRESBYTERIAN HOSPITAL.

(1870.)

East 70th and 71st Streets.

The late Richard M. Hunt, Architect.



THE TRIBUNE BUILDING

Park row New York City.

(1873.)

The late R. M. Hunt, Architect.



113-119 Broadway.

BOREEL BUILDING.
(1878.)

Stephen D. Hatch, Architect.

ing increase of commercial energy, the rapid increment of wealth, the marvelous development of mechanical ability. No adequate account of our Architecture can be given if a consideration of these facts be omitted.

From this point of view it is interesting to look backward and see the sort of conditions in which the professional practice of architecture, as we understand it to-day, began in New York.

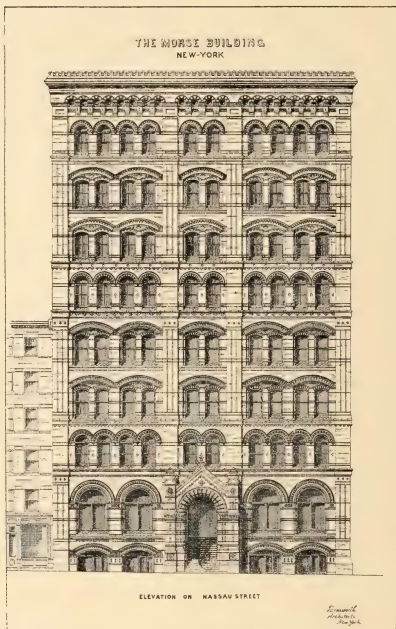
It is not necessary to fix upon a precise date. Certainly, if we place the beginning of the modern era in matters architectural somewhere about the middle of the century, we date it accurately enough. A year or two is of small account, for in 1850, and for some time before and after, architecture in the United States was at its lowest ebb. It was virtually extinct. The early forces that had produced the "Colonial" work and the "Greek revival" had quite spent themselves. The "Gothic revival" had hardly set in. It is usual, we know, to date the beginning of that, our third architectural dispensation, from the erection of Trinity Church in 1846; but really, the influence of the English renaissance of Mediaevalism was not fully felt on these shores until many years after the completion of Upjohn's work. Indeed, in 1850, there were few architects practising who possessed either the sane predilections of talent or the ready appreciation conferred by sound training, necessary to make them susceptible to the gospel of the Victorian Gothic. We were in a state that required the attention of the missionary with his simple preaching of the elementary decencies, rather than the doctrines of the English evangelists. Even the small body of serious designers at work at that time—and how few they were!—were without tradition or common standard, or intellectual co-operation of any effectiveness. Unnecesssary to add, there was no educated public. In New York City, the "Brownstone Period" had set in, and there must always be something pathologically curious about the mental condition of a community that could regard with positive satisfaction the extension over acre after acre of a stereotyped repetition of the utterly trivial details of "the brownstone front."

Let us not be misunderstood when we speak of a beginning. We

are not referring to any clearly defined event. In 1850 no St. Augustine of a new art landed on these shores. Our beginning amounts simply to this: If we trace back the forces that to-day control architectural design we find them in a merely nascent condition about the middle of the century. Many years elapsed before the new influences manifested themselves decisively in architectural practice. Indeed, so far as actual design is concerned, the beginning of the modern era might be carried down to the years that immediately followed the war—for convenience sake let us say 1870. Few buildings of any architectural importance erected prior to that date remain in the city, and so completely have conditions changed that the structures themselves that do remain are, we may say, positive encumbrances upon the land. It is extraordinary how extreme a "modern instance" New York is and to how great an extent one generation has been compelled (due mainly to geographical restrictions) to tread down the abodes of its predecessors in the forced northward march of population and in the necessitated shifting of trade centres which has accompanied the expansion of the city.

In the very nature of things the bald and monotonous repetition of the Brown Stone Age could not satisfy perpetually even the barbarians that produced it. There was a revolutionary force in the mere increase of population and wealth which has always been a prominent social phenomenon in the United States and which was markedly present in the middle of the century. New requirements and different standards of life were forming. There is a restlessness and a spirit of impermanence in activity, and it was inevitable that a community that was growing rich, beginning to travel greatly up and down the earth, coming into closer touch commercially and intellectually with the rest of the world, developing and building much, should sooner or later make new demands upon the architect.

Adoption was the only method of escape from the barrenness of eighteen-hundred-and-fifty. Originality, in a primitive sense, is always out of the question. The idea of a "great American style" was not unknown at the time we speak of, but it was as impotent then as it ever will be. As to innovation—that second sense of originality



THE MORSE BUILDING.
Nassau St., northwest corner Beekman St. Silliman & Farnsworth, Architects.
(1879.)



THE GUERNSEY BUILDING.

Broadway, New York City.

(1881.)

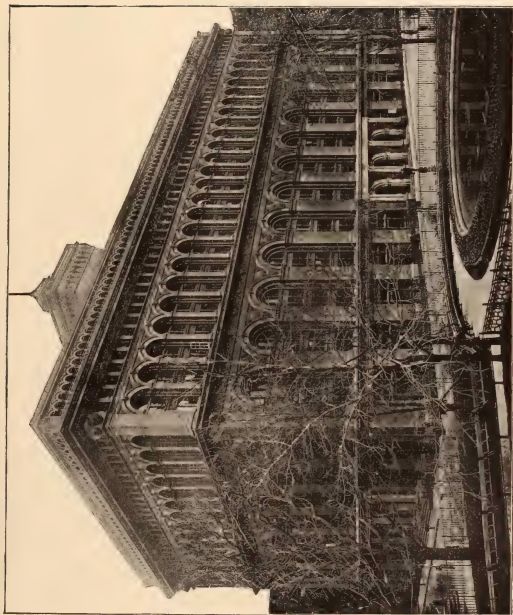
The late R. M. Hunt, Architect.



THE POST BUILDING.

Exchange Place, Broad Street and Hanover Square.
(1881.)

George B. Post, Architect.



Bowling Green, New York City.

THE PRODUCE EXCHANGE.
(1881.)

George B. Post, Architect.

—it, to be fruitful and more than left-handed work, must be a *final* process, a step after the very last acceptance of human experience has been profoundly made. As matters stood in these United States in 1850, there was extremely little to accept; indeed, scarcely anything to serve as a basis for solid artistic work.

Yet how important is the basis, the tradition with which the artist begins! We often hear talent and genius spoken of as though they were free agencies, capable of producing their effects as completely in one place as in another, "out of their own heads," as children say. Scarcely ever is the fact recognized that position—the point at which the individual is started on his own career by the previous labors of others—determines decisively the product of genius. Art, it has been said, is an invention, and it advances by passing on the gains of each generation to those that follow. The artist who begins work low in the scale of development may excel in his generation and greatly influence those that follow him, but his creations must fall far short of the highest standard. To realize how important the traditional element is we have only to imagine two writers of equal native talent, one reared in Finland, the other in France, and then estimate the difference that would exist between the value of their respective work.

In 1850, so far as architecture is concerned, the United States was Finland. We had no stock of native precedents, no fund of fruitful ideas, no developed training; in a word, no fecund tradition such as we have been talking of. There was really nothing at home for the architect of talent to begin with. He was forced to act as the colonists had acted before him—import.

There were two sources of inspiration to which the architect turned: England and France. Given a choice to-day there is no doubt which would most attract an American. Forty years ago, however, the United States was not completely an artistic colony of France, and our kinship with the land which is facetiously styled the "mother country" was not the remote and attenuated connection it has since become. We were still centered in England. The hereditary instinct for the old home was not yet dead. Besides, at the moment England was stirring under the stimulus of perhaps the most

vehement development of architecture in modern times—the Gothic revival. This mediaeval renaissance was in 1850 approaching its meridian. A. W. Pugin's career was almost ended. W. Butterfield, J. L. Pearson, G. G. Scott, had been busy for many years. Barry's Houses of Parliament were nearly completed, and Ruskin, who had already published "*The Seven Lamps of Architecture*," was preparing the "*Stones of Venice*," which appeared in 1861.

The Gothic revival was the product of so much enthusiasm, earnestness and aspiration that it would have been curious had our impoverished architects remained uninfluenced by it. The American phase of the Gothic revival, however, was not fully developed until after the war. We might use George Meredith's phrase and say only its "progenitorial foundation," belongs to the earlier period we are here considering.

Trinity Church unquestionably awoke local interest in the new or reviving style. That building, for the period, was an important undertaking, and, especially when conjoined with the historical associations of the site on which it was placed, was of a nature to render particularly conspicuous the innovations of its architect. But, alone, it was insufficient to count for much, even as a contributory cause, in the production of a phenomenon so great as the Gothic revival. The force that really was at first effective in America, more so in this country than in England, was not architectural but literary. There were no Gothic monuments in the United States to inspire study or provoke imitation. The architectural associations of even the Episcopal Church in the New World were not with Gothic, but with the classical forms that Wren made popular. The mediaeval spirit, so far as architecture is concerned, never touched our soil. We possessed none of the picturesque remains and gray solemnities which survived throughout England to authorize, as with the force of an ancient decree, the acts and doctrines of the Gothicists. At first it was through letters, especially through the writings of Ruskin, that the Gothic revival reached these shores. Later on, indeed, our architects felt the direct influence of English architectural example; but then a reaction was commencing abroad, and other ideas were turn-



MILLS BUILDING.

Broad Street, New York City.

George B. Post, Architect.

(1882.)

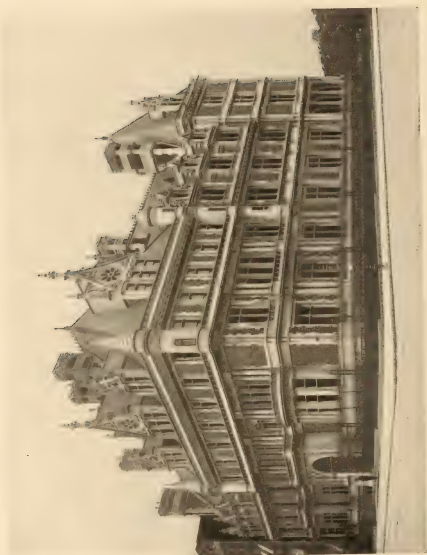


WESTERN UNION TELEGRAPH COMPANY'S BUILDING.

Broad Street.

Henry J. Hardenbergh, Architect.

(1883.)



CORNELIUS VANDERBILT'S RESIDENCE.
(1882-1883.)

Fifth Avenue, 57th and 58th Streets.

George B. Post, Architect



THE MUTUAL LIFE BUILDING
Nassau Street, New York City. Chas. W. Clinton, Architect.
(1884.)

ing the profession in England in new directions. Despite the talent it enlisted, the revival in the United States was never more than a secondary and derived effort—the exotic of an alien sentiment. It was doomed in England because its strength was of the past. It was doomed here, as all purely imitative efforts must be, because it possessed no native element. We could not say even this much with the Englishman:

"and yet, and yet—
How could it be? We strove not to forget;
Rather in vain to that old time we clung,
Its hopes and wishes round our hearts we hung,
We played old parts, we used old names in vain."

The other importation, made about the middle of the century, which was nearly as alien and for as many years after its first adoption quite as infertile as the Gothic, came from France. It was in 1855 that the late Richard M. Hunt returned to New York from his professional apprenticeship abroad. We do not know whether Mr. Hunt was actually the first American student at the *École des Beaux Arts*. There can be no question, however, that he was the first to use effectively in the United States the results of Parisian scholastic training, and his professional success and personal force undoubtedly contributed greatly to "advertise" the great French school among American architects. When Mr. Hunt returned home, current Continental ideas and traditions had scarcely more force in American architecture than they received from the work of men who came to the United States from the other side, and whose hereditary instincts, if not their training, were European, men such as Leopold Eidlitz, who by the way worked as draughtsman on the designs for Trinity church, the late Henry Fernbach, the late Detlef Lienau and others. We speak here of Mr. Hunt's example merely for its chronological significance. Many years elapsed before his influence was powerfully felt in his profession, and then his example had been reinforced by one greater than he, for it was in 1862 that H. H. Richardson made his first return from Paris, starting his active professional career afterwards in New York in 1865.

Native talent might begin with worse materials than those obtained by a hospitable eclecticism. The weakness of modern American architecture is not due to the borrowed capital it has used, but to the

insignificance of the subsequent national contribution to the original stock. We have remained borrowers. That is the trouble. Our history is, in the main, an affair of other people's currency. Instead of persistently and consistently developing our own ideas, even though it be from a starting point of some one else's ideas, we have persisted with nothing. We have been satisfied with importing some new "style" every decade. We have impressed it upon churches, residences, mercantile and governmental buildings, exhibited it in stone, clay and iron, covered the land with it, then summarily discarded it for some fresher importation. This is not the development of an art: it is merely the method of the milliner, qualified by longer "seasons" and more durable "old clothes." Gothic, Queen Anne, Romanesque, Classic, Academic French—how tiresome the enumeration of these superficial renderings of European ideas that have had their vogue with us for a time! Not one left any permanent residuum, or contributed any element to the inherent artistic possessions of the nation. We know more "things" now than we did in 1850. We are more facile; perhaps we can choose better—but that is the net result of our efforts. It is merely a matter of readier draughtsmanship. Evidently, in 1850, we were in Timothy Tickler's frame of mind: "For many years I lived very comfortably without a wife; and since the year 1820 I have been a monogamist. But I confess that there is a sameness in the system. I should like very much to try polygamy for a few years. I wish Milton had explained the duties of a polygamist; for it is possible that they may be of a very intricate, complicated, and unbounded nature, and that such an accumulation of private business might be thrown on one's hands that it could not be in the power of an elderly gentleman to overtake it."

Certainly, polygamy is the system according to which we have lived, and our practices have resulted in an accumulation of intricate and complicated business, quite beyond the artist's talents. It does not do to noise the statement abroad, but the fact is acknowledged frankly by those to whom the noble art of architecture is a matter of real concern, that the history of the last quarter of a century is, in great measure, the history of the process whereby the Architect



WESTERN UNION TELEGRAPH COMPANY'S BUILDING.
(1884.)

Fifth Avenue and 23d Street.

Henry J. Hardenbergh, Architect.



COTTON EXCHANGE.

Hanover Square, New York City.

(1885.)

George B. Post, Architect.

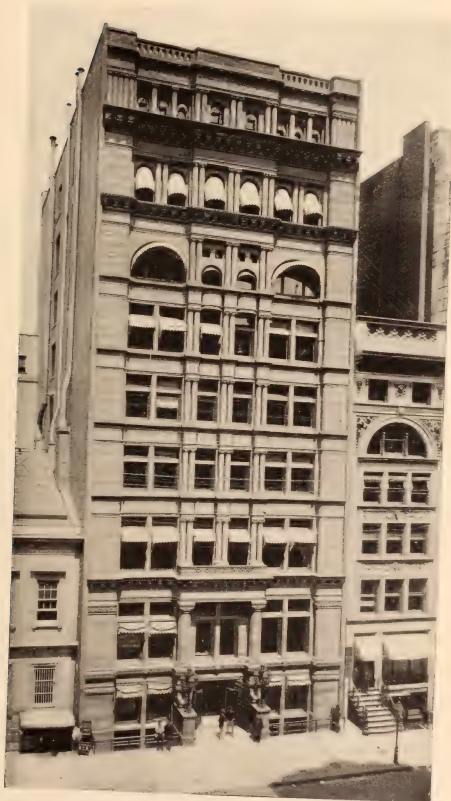


LINCOLN BUILDING.

Union square, New York City.

(1885.)

R. H. Robertson, Architect.



THE GALLATIN BANK BUILDING.

Wall Street, New York City.

(1886.)

Cady, Berg & See, Architects.

—the artist—has been ejected from the profession. Terms of courtesy long outlive their original application. We may therefore continue to speak of the practice of architecture as a profession, but in strict truth it is become more of a business than a profession, and a very severe business, conducted under conditions and upon principles exactly paralled in pursuits which are regarded as purely mercantile. The age selects the type, and the man for the times has not been the artist but the architectural “drummer,” the fellow with the commercial instinct well developed.

In 1850, as we have seen, architecture in this country started on its modern course in a second-hand way. Progress was slow. For twenty years, perhaps we might say for twenty-five years, the bulk of the work done was of the dull mechanical Renaissance type which received its most grandiose expression in the designs of Griffith Thomas and John Kellum. Conspicuous relics of it are the Park Bank Building on lower Broadway, and the old A. T. Stewart mansion on Fifth avenue. That sort of work was produced with the prolificness and the capacity of machinery for repetition. It was admired. There is, we know, nothing in the whole repertoire of architecture that captures so completely the “fellow in the street” as the Corinthian column and its stereotyped accessories. These are the flowers—the immortelles—of architectural rhetoric. The illiterate never tire of them. The architects who were capable of producing this sort of work in abundance figured as the “successful architects” during the period of which we are speaking. The more serious, considered work of the time, the National Academy of Design on 14th street, for example; the old Produce Exchange, Temple Emanuel on Fifth avenue, the Brooklyn Art Building on Montague street, was cavaire to the general. The attempts to naturalize Gothic and adapt it to secular purposes were never accepted. Few buildings of the “revival” remain in New York, and they serve merely as monuments of a lost cause, and as witnesses to the first artistic purpose that was manifested in our architecture after post-Colonial days.

Given sufficient time and steadier conditions, perhaps something vernacular and permanent might have resulted from the attempt

to re-establish Gothic. As much may be said, of course, of any of our many revivals and importations. Hammered at long enough, a native element might have been welded to the borrowed material. But the time necessary for the process was not given. The outbreak of the war checked the course of architecture in the United States as it checked all other pursuits of peace. The years of conflict were lost years to the art, years, we may well believe, of irretrievable value, because when the nation returned to its interrupted vocations the resumption was attended by intensity and pressure previously unknown. Had American architecture been more firmly established, richer in tradition and ideas, surer of its direction, the tremendous call made upon it after the close of the war would have been an opportunity of vast value. As a matter of fact, our architects were in no way prepared for the multitude of problems thrust upon them. The profession was recruited in haste, and the work done has been necessarily of the nature of a gigantic improvisation. We have been obliged to borrow and adapt instead of creating and developing. The immense amount of work to be dealt with has necessitated the acceptance of the easiest and speediest processes. How vast this work has been may be seen from the following table of the plans filed in New York City alone:

Period.	No. of Buildings.	Cost.
1868-1872.....	11,223	\$180,008,999
1873-1877.....	6,916	89,099,913
1878-1882.....	11,248	155,086,823
1883-1887.....	17,287	256,667,648
1888-1893.....	15,992	305,791,124
1894-1897 (4 years).....	13,095	291,090,215

But the pressure of the times is not revealed even by these large figures. We must take into account also the revolutionary force of innovations. This period has witnessed the general adoption of the elevator, the introduction of the apartment house, fireproofing, skeleton-construction, the sky-scraper, electric lighting, in addition to a multitude of radical improvements in the sanitation, heating and general equipment of buildings. In a score of directions the mechanical activity of the age has operated powerfully upon and greatly intensified the problems of architecture. Moreover, the in-

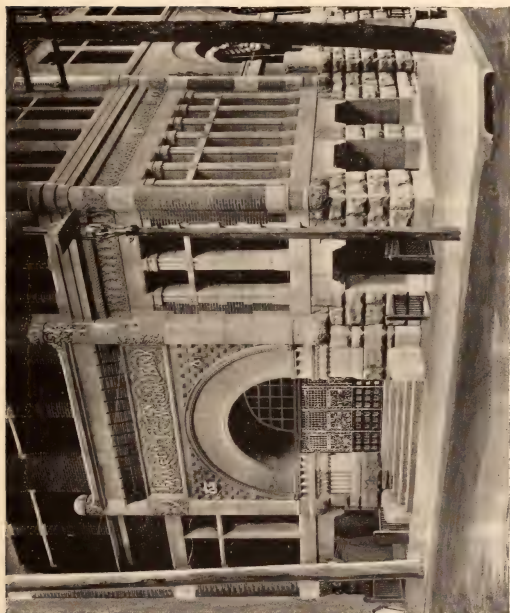


WAREHOUSE.

Hudson and Beach Streets.

Kimball & Ihnen, Architects.

(1886.)

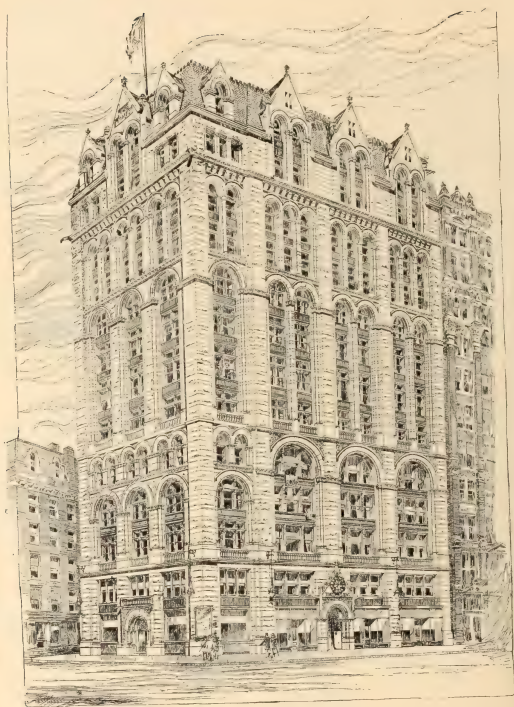


THE MARKET AND FULTON BANK.

Fulton Street, New York City.

W. B. Tulby, Architect.

(1888.)



THE NEW YORK TIMES BUILDING.

Park Row, New York City.

(1889.)

George B. Post, Architect.



LANCASHIRE FIRE INSURANCE COMPANY'S BUILDING.
No. 25 Pine Street, New York City. J. C. Cady & Co., Architects.
(1889.)

crease of travel and the enormous addition to wealth which have occurred in the last quarter of a century, have profoundly affected public taste. The most luxurious standards of European life have been, as it were, by a common impulse set up in this country and democratized. As a consequence, our architects have been called upon in this direction also to satisfy requirements which barely existed in 1856.

While considering architecture and the work of the architect, we must be careful not to run into any confusion as to exactly what the matters are with which we are dealing. There is a great deal of loose talk current about modern American architecture. It is common to attribute to Architecture much that is really Engineering. The skyscraper, for instance, in the sense which it impresses most people, is not an affair of Architecture at all. The architect is scarcely more responsible for that daring type of construction than he is for the cantilever bridge. One or two men, it is true, just within the limits of the profession, but whose ability and training were far stronger on the mechanical side than the artistic, took part in the inception of the idea of skeleton-construction. The development of the system, however, has been the work of the engineer. It is entirely in his hands to-day. This is also true of the elevator, that other innovation which has played an equal part with the steel framework in the production of what is par excellence the type of American structure. With the development of sanitary appliances, the improvement of building materials, the introduction of electric light and power, the use of fireproofing, and so forth, the architect has taken a decidedly subordinate part. He has rarely been the innovator. So far as the affair of actual invention goes, that is natural enough. But in another direction, wherein he might properly be expected to have exerted an influence, he has not done so—these improvements have not in any great measure been the result of his demands or of his perception of the requirements of his clients. He has not subjected himself, as the Engineer has wholly, to the force of the actual needs of his day. He has been content to deal with these at second-hand while he has been busy, too exclusively in the judgment of many, with the superficial side of design.

Problems that should have been of prime concern to him have been left to others for consideration and solution. We are not referring only to mechanical matters. Take, for example, the plan of the tenement house in New York and the plan of the city residence. The types, now almost fixed, are principally the work of the contract builder and the builders' draughtsman. While these Philistines have been laboring, and laboring successfully, with the intractabilities of the 25-foot lot and the task of housing with some comfort the population of a little village within arbitrary areas, the chief contributions of the "elect" of the profession have been the examples from which the illiterate "artchitect" has derived the misapplied features of his disturbing exteriors.

This is not the place to discuss the proper function of the Architect. Perhaps by a natural differentiation of pursuits his function has necessarily suffered limitation. This limitation, however, is a cardinal fact in the history of the last quarter of a century. Few of our architects have possessed any original talent for construction or evinced any decided ability for the scientific side of their profession. All that appertains thereto has been rather bothersome. It has been necessary to deal with it, and so it has been dealt with, for the most part intelligently and often skilfully. But the treatment has been rather executive and supervisory than direct and personal. The modern building is a product of many brains,* and the architect's contribution consists in the main of administration, the general plan, and the exterior design.

The exterior design is the element the architect has most cared for. In it he has been interested above all else. He has willingly given study, thought and time to it, committing to others the difficulties of engineering, sanitation, construction and similar utilities. He has preferred the role of dilettante, which in architecture runs

*It has been calculated that there are forty-four distinct mechanical services involved in the complete equipment of a modern office building, as follows:

- | | | |
|----------------------------|-----------------------------|--------------------------|
| 1. Power supply. | 16. Fixtures. | 31. Filtration. |
| 2. Boilers. | 17. 3-wire system. | 32. Fire service. |
| 3. Chimney. | 18. Edison connection. | 33. Janitor's service. |
| 4. Grates. | 19. Gas. | 34. Hot water. |
| 5. Fuel and storage. | 20. Dynamos. | 35. Ice water. |
| 6. Drainage and blow-offs. | 21. Engines. | 36. Telephones. |
| 7. Labor and staff. | 22. Piping. | 37. Interior telephones. |
| 8. Foundations. | 23. Lagging. | 38. Speaking tubes. |
| 9. Elevators. | 24. Steam heating. | 39. Bells. |
| 10. Freight elevator. | 25. Automatic heat control. | 40. Messenger service. |
| 11. Sidewalk elevator. | 26. Condensing. | 41. Ticker service. |
| 12. Ash-hoist. | 27. Feed heating. | 42. Burglar alarms. |
| 13. Cages. | 28. Ventilating fans. | 43. Watchman's clock. |
| 14. Indicators. | 29. Office fans. | 44. Time clocks. |
| 15. Electric wiring. | 30. Water supply. | |



THE HOLLAND HOUSE.
(1889.)

Fifth Avenue and 30th Street.

George Edward Harding & Gooch, Architects.

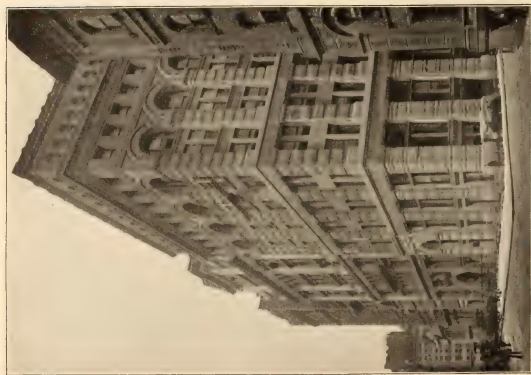


WESTERN ELECTRIC BUILDING

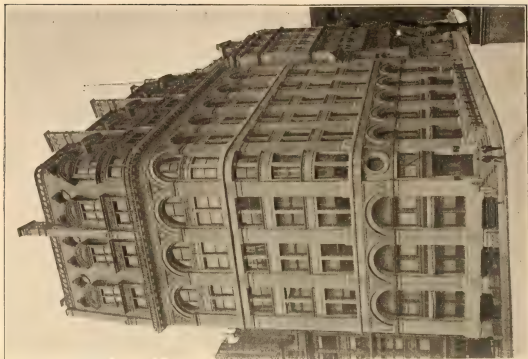
Church Street, New York City.

(1880.)

C. L. W. Eldlitz, Architect.



BANK OF AMERICA.
Wall Street, New York City
Clinton & Russell, Architects.
(1889.)



WILKS BUILDING.
Southwest corner Wall and Broad Streets.
Clinton & Russell, Architects.
(1889.)



ACADEMY OF MEDICINE.

(1889.)

R. H. Robertson, Architect.

West 43d Street.

invariably to history and studies in the externals of "styles." Its practical result is draughtsmanship and paper designing. Logical, organic, substantial architecture requires more solid foundation.

Under these conditions it is natural enough that a very great part of the work of the last quarter of a century is only very loosely related to structure. The architect has produced his pictures and stylistic essays, and these have been built as facades devoid of radical correspondence with the internal disposition, and construction of the buildings they enclose.

That is a poor way of doing architecture, but it is all the poorer if the designer is pressed by the amount of work he has to accomplish and harrassed by a perpetual demand for something new. That has been the position in which our architects have found themselves in an intensely busy and competitive age. The task of getting commissions and executing them with the celerity clients demand has been in itself a consuming business, particularly as the successful members of the profession placed no limit upon the amount of work they were willing to accept. Their draughting rooms have been converted into veritable workshops. Conditions favorable to artistic study or production have been replaced by the air and bustle of the banking house. What with clients, contractors, material-men, the disbursing of large sums of money, the urgency of work, the necessity for organization and a large staff of employes—the pursuit of architecture has undergone a pretty thorough commercialization. The mercantile spirit has conquered the studio, and "Art" there has become a commodity, a high-class commodity, it is true, but one such as is dealt in in china factories and the workshops of silversmiths and furniture-makers. Under conditions of this sort "styles," "novelties," "fashions," become matters of prime concern. They are competitive elements. They impress the customer. They are of immense importance too in "holding trade" and maintaining prices. In the political economy of the tailor and milliner this fact has long been accepted. Fashions are cheapened by time, but the "seasons" re-establish values. Architecture, as a commodity, has been subjected to the same law, and step by step, as the profession has been com-

mercialized in the last quarter of a century, greater attention has been given to "styles."

Social changes rarely come about consciously. Men do not plan for them. They are quietly imposed upon the individual whose methods and ideas are insidiously moulded into conformity with the new order. No announcements are made. The work is done, we may say, diplomatically, by minute conversions and perversions of the established order. The old activities of men continue, but they tend to different results. The last matter to be touched is the outward appearance of things. "Revivals," "reformations," all the processes of return by which men imagine they may more firmly establish the doomed regime, only contribute to its downfall. It must not therefore be imagined that the conditions we have just outlined have been consciously produced by the architect. He is scarcely aware of their existence. They have come despite him. His hardest struggle has been to be artist, and the irony of circumstances has evolved from his efforts the fashionable shop, and a commercialized profession. Even the pursuit of styles has been, on his part, a labor to discover a solid foundation for his art. Gothic, Queen Anne, Romanesque, Classic.

"Old things repeated with diminished grace,
And all the labored novelties."

each, alike, was enthusiastically adopted as a permanent basis for modern work. Entirely hopeless the quest has been. The more we have changed, the more we have remained the same. Not the individual but the conditions control, and as we have seen the conditions of our day are too mechanical, commercial and rapid for the artist. There is little place for him in the profession. The sharp, practical executive with, perhaps, some taste for decoration, is the successful man. In this fact we see the reason why the Renaissance and the so-called "Classic" styles have persisted during the last quarter of a century despite all attempts at innovation. The formal elements of these styles have been completely stereotyped. They can be produced mechanically. They constitute a set of standard patterns or molds that anyone can use. They exactly suit an age whose idea of progress is centered in interchangeable machinery and whose appreciation of art is chiefly a susceptibility to magnitude and show.



CLINTON HALL BUILDING.

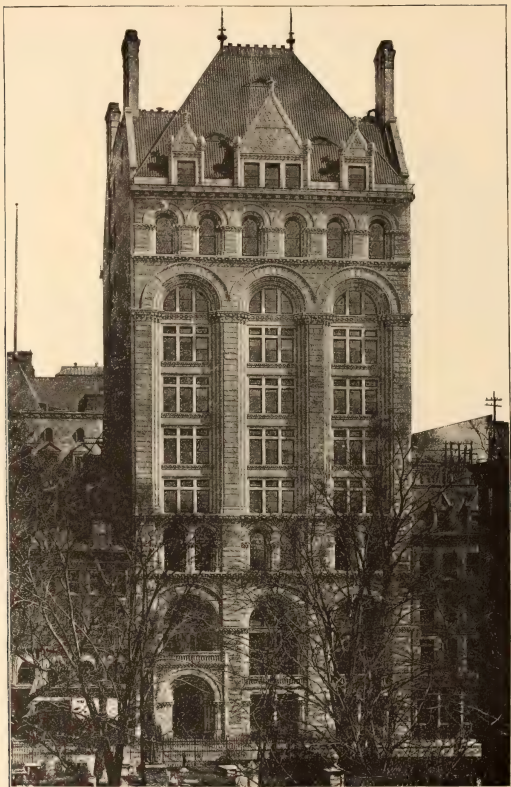
Astor Place, New York City.

(1890.)

George E. Harney, Architect.



(1890.)



THE UNION TRUST BUILDING.

Broadway, south of Wall Street.

(1890.)

George B. Post, Architect.



THE UNION TRUST BUILDING.

New Street front.

(1890.)

George B. Post, Architect.

Further on will be found tables in which are given lists of typical buildings, planned for since 1868, and the chief work of some of the more prominent architects of the day, chronologically arranged. The tables, of course, are in no sense exhaustive. They are merely intended to furnish a sufficient number of examples of current work from year to year, so that any who may be interested may study in the concrete the course of architecture in New York City during the last quarter of a century. Some buildings are included in the list solely for the personal interest attached to them as the work of men who, a quarter of a century ago, were the celebrities of the profession, but are now forgotten, and, conversely, others of little intrinsic merit are recorded because they represent the early efforts of men who won for themselves later a prominent position in their vocation.

We have not deemed it necessary to go further back than 1868—the close of the war—for reasons already given. Although 1850 may be regarded as the beginning of the modern era, very little work was produced for twenty years of any particular architectural significance. Besides, most of what was done, deserving even passing consideration has been pulled down. A few buildings remain, however, that deserve to be mentioned. Of Trinity Church we have spoken. Trinity Building, No. 111 Broadway, remains as a belated specimen of an 'old-time office building. It dates from 1853. The Astor Library may be regarded as typical of the best class of building of its day devoted to public service. The south end was built in 1854 and the middle part in 1859. The north end is much more recent, dating from 1881 only. This building reminds us of the mid-century interest taken in mediæval things architectural, for, though strictly speaking it is not a product of the Gothic revival, its design is evidently based upon Gärtner's Library in Munich, and so recalls the Bavarian Romanesque movement of sixty years ago. St. George's Church (1846-1850) in Stuyvesant Square, is one of the oldest ecclesiastical buildings remaining in the city and may be studied with Trinity Church as representing the best that was done in the early period of which we are speaking. To a later date, 1856, belongs the old Produce Exchange that stood on the site on Whitehall street now occupied by the clumsy Army Building. Some years

later, in 1862, the Academy of Design, 23d street and Fourth avenue, was produced. A new edifice for the academy is now building uptown, and it cannot be long, in the ordinary course of things, before this, the most interesting secular work produced by the Gothic revival, is pulled down.

We are able to give a picture of the first townhouse designed by the late Richard M. Hunt—the Rossiter residence, No. 11 West 38th street, built in 1855, and demolished some time ago. See page —. It represents not only the earliest product in New York of Parisian training, but will serve as an example of design rather above the average of its day. The Studio Building, West 10th street, also done by Mr. Hunt (in 1856), remains, and may be studied as representative of a more utilitarian type of structure.

With these "ensamples," the student who is not inflicted with merely historical curiosity may be content. There is little more of artistic value for him in the city dating earlier than 1868 and later than 1850. With the close of War the real business of modern architecture began, and it began, as he will see from our tables, with the florid Renaissance work of Griffith Thomas, Kellum and others, such as the Park National Bank and the old New York Life Building, with the "iron front" structure of which the Gilsey Hotel and the Tiffany store are examples, and with the final productions of the Gothic revival.

It would be interesting to trace at some length the personal side of architectural history, but too much space would be required. We must mention, however, that Mr. Hunt, who had spent the troublous years of the Rebellion in European study, had returned, in 1868, to New York to resume the practice of his profession, and Mr. George B. Post was about to receive his first important commission—as engineer rather than as architect—that for the Equitable Life Building, associated with Messrs. Gillam & Kendall. We mention Mr. Hunt and Mr. Post because it may fairly be said they represent perhaps more notably than any other two individuals the thoroughly trained and technically educated element which, about thirty years ago, commenced to gain an ascendancy in the profession. It is, perhaps, invidious to select these two names from a list that includes



Broad Street, New York City.

TELEPHONE BUILDING.

(1890.)

C. L. W. Eldlitz, Architect.



MARIA LOUISA HOME.
(1890.)

East 16th Street, New York City.

R. H. Robertson, Architect.



ENTRANCE TO THE CENTURY CLUB.

(1890.)

West 43d Street, New York City.

McKim, Mead & White, Architects.



EDISON BUILDING.
Broad Street, New York City. Carrère & Hastings, Architects.
(1891.)

R. M. Upjohn, James Renwick, Chas. C. Haight, Russell Sturgis, Edward H Kendall, but Mr. Hunt and Mr. Post attained at an early date a prominence which came to others either later or in a somewhat lesser degree. It happened, moreover, that both of them arrived on the scene at the very moment when modern conditions were first making themselves felt and just at the time when the novelties and innovations, artistic and mechanical, that are the most conspicuous elements of modern architecture were about to be introduced. Mr. Hunt and Mr. Post possessed, the one an artistic, and the other a scientific preparatory training which have since become requisite to good professional standing if not to financial success. It so happened that both these men were called upon early in their career to produce buildings that without unnecessary qualifications may be considered new, as to type. In 1869 Mr. Hunt filed plans for the Stuyvesant Apartment House on 18th street, 100 feet west of Third avenue. These were the first flats in New York City, the forerunners not only of a vast change in the social life of the city, but of new problems for the architect. It is true the Stuyvesant flats were produced by the reconstruction of old houses, but nevertheless they were the first embodiment of new ideas, which were afterwards more completely worked out. Perhaps the first building in the city planned as an apartment house and constructed for that purpose from cellar to roof, was The Jardine, still standing, in West 56th street. It was designed by Mr. Jardine, of Jardine, Kent & Jardine, in 1872, and was first occupied by tenants in the fall of that year.

For five years after 1868 very little architectural work of any interest was produced in the city, except in church design. Lord & Taylor's store, on Broadway, corner of 20th street; the Seamen's Bank for Savings, Wall street; the Kemp Building, William and Cedar streets; the Drexel Building, Wall and Broad streets (one of the first fire-proof buildings in the city), represent what was then considered first-class commercial buildings of more than average artistic merit. In 1870 Mr. Hunt commenced the Presbyterian Hospital, a restless building which exhibits a conflict between the Gothic vogue of the day and Mr. Hunt's earlier training. The Lenox Library, another of Mr. Hunt's works, dates from 1871. It is a cold

and stark building, but it possesses a stately and monumental character, which was a new element in American architecture at the time. Its good qualities are French.

In 1873 the development of the high modern office building commenced, and the first steps—the Western Union Building and the Tribune Building—were made by Mr. Post and Mr. Hunt. Both of these buildings much overtopped the highest commercial structures then existing. Indeed, for many years they remained signal examples as to altitude. Yet, undoubtedly, they indicated the new requirements of the city, and would have been followed quickly by other buildings of nine or ten stories had it not been for the long depression that followed the panic of '73.

It is interesting to note that in these two designs the office building was carried at a single bound to the utmost height made commercially possible by the elevator. The old Western Union Building was some ten stories high, and this was not exceeded by more than one story, if by that, until the introduction of skeleton construction.

Eighteen hundred and seventy-five is notable as marking the passing away of the old florid Renaissance type of design. The Dime Savings Bank, 32d street and Broadway, and the Greenwich Savings Bank, 71 Sixth avenue, were among the last important essays in this species of mechanical design. Two or three years later the Gothic tradition vanished as an element in general practice with the Metropolitan Trust Co.'s Building, 37 and 39 Wall street, and the beginning of Columbia College buildings by Mr. C. C. Haight. After 1878 a rather nondescript Renaissance was dominant for some years, but in the lighter work of the period appeared what Freeman has somewhere described as "that absence of style, called Queen Anne."

About 1880, the restless interest of the profession in "something new" led to a rapid series of adaptations which has made American architecture of the last twenty years the "thing of shreds and patches" it is. For instance, in 1879, plans were filed for the Union League Club and for the 57th street part of Cornelius Vanderbilt's residence. In 1880 plans were filed for the Dakota Apartment House, the United Bank Building, the Post Building, and for the



MORRIS BUILDING.

64 and 68 Broad St., New York City.

(1891.)

Youngs & Cable, Architects.



• GENERAL OFFICE BUILDING •
• DELAWARE • LACKAWANNA • & • WESTERN • R. R. • CO. •

L. C. HOLDEN • ARCHTCT. •
• LINCOLN • BUILDING •
N. Y. CITY.

26 EXCHANGE • PL. •
• N. Y. CITY •
(1891.)



AMERICAN FINE ARTS BUILDING.
(1891.)

Nos. 211 to 215 West 57th Street.

H. J. Hardenbergh.
V. C. Hunting. } Architects.
J. C. Jacobsen.



THE RACQUET CLUB.
(1891.)

West 44th Street, New York City.

C. L. W. Eldlitz, Architect.

office building at No. 55 Broadway. In 1881 plans were filed for the Mills Building, for the Produce Exchange, for the Casino Theatre. In 1882 the Union Theological Seminary was commenced, as well as the Washington Building, the Villard residence, the Tiffany residence, and the Navarro Apartment houses. The chaotic list includes pretty nearly every style from Moorish to nondescript. Two tendencies, perhaps, are noticeable in these examples. In one direction we may see the advent of a more accurate and scholarly rendering of the Renaissance styles than we had hitherto known, and in another direction the struggle to retain the free picturesque qualities of Gothic work, while discarding Gothic forms. The Tiffany house, the Vanderbilt residence, the Union League Club, the office building at 55 Broadway, are examples of this latter tendency. The Post Building, Mills Building, Metropolitan Opera House (1881), the Knickerbocker Apartment House (1882), Villard residence, the Mutual Life Building (1883) represent the opposite tendency towards the formal, the balanced—in short, the classic.

In the end the latter tendency proved to be the stronger of the two, or, perhaps, we should rather say, it better suited the conditions of the hour. Roman architecture and its Renaissance derivatives are essentially styles of pomp and show, and pomp and show are essentially the articles that the modern public seek when they go into the market to buy "art," either for their homes or their places of business and recreation. That is one reason for the success of the "classic" and cognate types, the forms that Clough had in mind when writing,

"I, from no building, gay or solemn,
Can spare the graceful Grecian column."

That is one side of the matter—the public love for pompous and rhetorical form. The other side of the matter is esoteric and professional. It is this: the successful architect to-day obtains an amount of work quite beyond his capacity as artist. To retain this work and execute it a large staff is necessary, and this force, if it is to accomplish work speedily, economically and without hitch, must operate along clearly understood and well-defined lines. It is plainly impossible for the head or even the heads of our great architectural estab-

lishments to personally design more than a small part of the buildings intrusted to them. They cannot do more than direct and advise subordinates. For counsel to be easy on the one hand, and prompt and sure of result on the other, it is requisite that the architect and his assistants should deal with a thoroughly understood order of facts. Now, "classic" furnishes just such an order of facts. It has been thoroughly methodized. It is taught in all the schools as the alphabet of architecture, so that it is become really a species of labor-saving device for the pressed and hurried architect. There is nothing else that can possibly take its place in this regard. No large office could be so thoroughly regimented and organized with any "free" style as the basis of operation, hence in the last few years architect after architect has discarded old predilections and adopted "classic." The only men who have been able to resist are a few strong individuals, who, through fortune or misfortune, are not overburdened with commissions.

Near the middle of the eighth decade appeared what has been called "The Romanesque Revival" in New York. For a brief space, until 1890 or later, it dominated architectural practice. Romanesque, of course, was not a new thing in this country at that time, but the experiments of earlier days were quite forgotten. The later popularity of the style was due to the brilliant success of H. H. Richardson with certain Provençal ornamental details which he adopted, modified and used with remarkable effect. It was natural enough that his famous Trinity Church at Boston (1877) should influence ecclesiastical work, but the adoption of the author's Romanesque manner in a wholesale degree for residences, office buildings, stores and warehouses, is a very pointed example and proof of what has been said in these pages about "fads" and "styles," and the modish nature of modern architectural practice. The best examples of the style in New York are the Times Building, the United States Trust Building, the Union Trust Building (1889), Market and Fulton Bank (1888), the Telephone Building, Cortlandt street (1887); St. Agnes' Church (1889). To these must be added the later works of Cyrus L. W. Eidlitz, such, for instance, as the Raquet Club (1891), on West 44th street; the Telephone Building, Broad street; the Bank for Savings



RHINELANDER BUILDING.

Rose Street, New York City.

Clinton & Russell, Architects.

(1892.)



RHINELANDER BUILDING.

Rose and Duane Streets, New York City.

Clinton & Russell, Architects.

(1892.)



THE PIERCE BUILDING.

Northwest corner Hudson and Franklin Sts.

Carrère & Hastings, Architects.

(1892.)



THE POSTAL TELEGRAPH COMPANY'S BUILDING.
Broadway, cor. Murray Street. Harding & Goach, Architects.
(1892.)

(1893-4), 22d street and Fourth avenue. Long before the latter date, however, the profession had utterly discarded the style which it had so enthusiastically taken up.

Following the Romanesque revival, the profession returned to the Renaissance, if, indeed, we may speak of a "return" to forms which had never been dropped by many practitioners. Much of the new work that was done was patterned after Italian buildings of the sixteenth century. The transitional details of the period of Francis the First, were also received with favor. The latter may be seen in buildings, such as the Home Life Building (1892), the addition to Cornelius Vanderbilt's residence (1893), the residence of John Jacob Astor (1893)—the last important design of Mr. R. H. Hunt—the Fahy's Building (1894), etc. At the same time, largely through the influence of McKim, Mead & White, the use of strictly Roman details became popular. The Bowery Savings Bank (1893) is a good example of this work. From 1893, moreover, may be dated the importation of the Academic Beaux-Arts manner, which is now the latest mode in architecture. Carrère & Hastings, it is true, designed the Pierce Building on Hudson street as early as 1890, and the Mail and Express Building in 1891, but these buildings were rather French than Academic. The Life Building (1893), the Scribner Building of the same year, the Herter residence (finished 1894), the Young residence (1895), the Hotel Renaissance (1895), and the Singer Building (1897), are prominent examples of a fashion which is likely to be in great favor for a year or two to come, but which is as sure to be superseded by some other adaptation as was the Gothic, the Queen Anne, and the Romanesque and those other departed "fads" of which we have spoken.



HAVEMEYER BUILDING.

Cortlandt Street, New York City.

George B. Post, Architect.

(1892.)



CORN EXCHANGE BANK BUILDING.

Corner Beaver and William Streets.

(1892.)

R. H. Robertson, Architect.

CHRONOLOGICAL LIST OF TYPICAL BUILDINGS.*

1868.

Dwelling, 4 stories	5th av., west side of 50 feet n of 45th st.	Wm. Field & Son.
Hotel	Broadway, s e corner of 31st st.	H. Engelbert.
Warehouse for P. Lorillard and others.	Howard st., Nos. 30 and 32.	John R. Shook.
Dwelling and studio for J. Q. A. Ward.	49th st., Nos. 7 and 9 West.	R. M. Hunt.
Dwelling	40th st., n s, 200 feet e of 5th av.	Gilman & Kendall.
Dwelling for Rev. R. S. Howland.	5th av., n e cor 45th st.	John Correia.
Dwelling	5th av., n w cor 40th st.	D. & J. Jardine.
Dwelling	Madison av., No 187.	Robert Mook.
Warehouse	5th av., n e cor 47th st.	S. D. Hatch.
Store building for D. Appleton & Co.	Beekman st., No 77.	John Kellum.
Dwelling for Mrs. E. Bayard.	Greene st., Nos 12 and 14.	Griffith Thomas.
Store building	40th st., s s, 165.6 feet west of 5th av.	Russell Sturges.
Store building	White st., Nos 3, 5 and 7.	I. F. Duckworth.
Dwellings (3) for W. R. Astor.	Broadway, n w cor 11th st.	John Kellum.
St. Luke's Hospital.	Madison av., n e cor of 44th st.	P. Kissam.
Store buildings	5th av., s w cor of 55th st., 418 11.	W. P. Eastbrook.
Warehouse	Walker st., Nos 83 and 85.	Henry Fornbach.
Church and school.	Lispenard st., Nos 13 and 15.	Carl Pfeiffer.
Store for Arnold & Constable.	29th st., n e cor 7th av.	R. M. Upjohn.
School for Trinity Church Corporation.	Broadway, between 18th and 19th sts.	Gilman & Kendall and George R. Post.
Office buildings for Equitable Life Assur. Soc.	Varick st., e s, cor of Laight st.	R. M. Upjohn.
Office building for Y. M. C. Assoc.	Broadway, cor of Cedar st (east, 8700400).	Gilman & Kendall
Baptist Church.	14th av., s e cor of 23d st.	James Rowlock.
Office building for N. Y. Life Ins Co.	53d st., n s, 100 feet east of 7th av.	Griffith Thomas.
Office building for Park Natl. Bank.	Broadway, Leonard st. and Catherine lan.	Griffith Thomas.
Store building for Lake & McJannet.	Broadway, Nos 214 216.	Griffith Thomas.
Three dwellings.	Broadway, n w cor 11th st.	John Kellum.
	57th st., n s, 175 feet w of 8th av.	Wm. H. Hume.

*This list has been compiled from the records of the Building Department. The reader will, of course, remember that not all plans are carried out immediately upon filing, and, of course, some are entirely abandoned. Many of the buildings mentioned in the earlier years have been torn down.

1869.

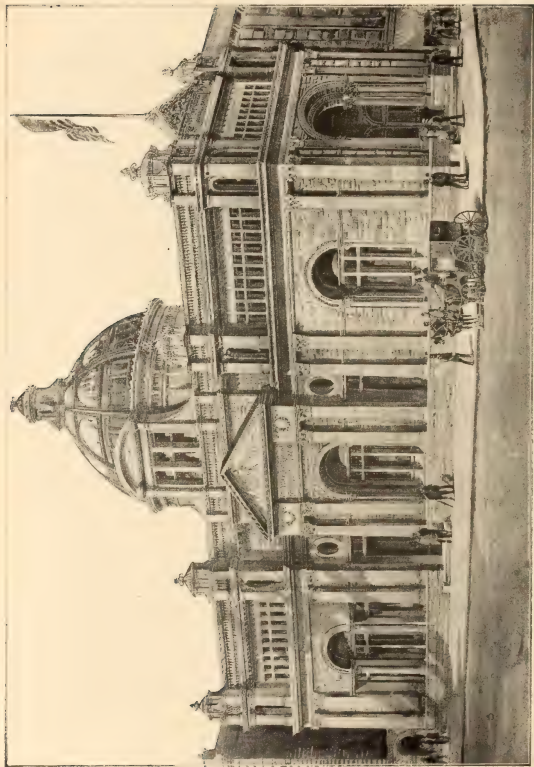
First Baptist Church.....	Park av, w s, 100 n 39th st	Griffith Thomas.
Madison Ave. Reformed Church.....	Madison av, n e cor 57th st	E. L. Roberts.
Church of the Holy Trinity.....	Madison av, e s, 91 feet n of 42d st	Vaux & Withers.
St. James' Church.....	72d st, n s, bet 3d and Lexington avs.	Renwick & Sands.
St. Joseph's Church.....	N w cor Washington place and 6th av.	Renwick & Sands.
St. Joseph's School.....	6th av, w s, 66 feet n of Washington place.	Renwick & Sands.
Church of the Epiphany.....	2d av, w s, south of 22d st	Napoleon Le Brun.
Public building.....	84th st, s e cor Riverside Drive.....	Chas. C. Haight.
Medical College.....	26th st, s s, bet Av A and 1st av.....	Renwick & Sands.
North Western Dispensary.....	26th st, n w cor 9th av.....	Renwick & Sands.
Building for Roosevelt Hospital.....	58th st, n s, 281 w of 9th av.....	Carl Pfeiffer.
Public school.....	Promie st, Nos 104 to 110.....	James L. Miller.
Gilsey Hotel.....	Broadway, n e cor 29th st.....	S. D. Hatch.
Store for Lord & Taylor.....	Broadway, s w cor 20th st	J. G. Giles.
Park Ave. Hotel.....	4th av, w s, from 32d to 33d st	John Kellum.
Store for Le Boutillier Bros.....	Broadway, No 425	Griffith Thomas.
9th Natl. Bank Building.....	Broadway, Nos 407 and 409.....	E. L. Roberts.
Tiffany & Co.'s store.....	Union Square, s w cor 15th st	John Kellum.
Dwelling.....	40th st, n s, 100 e of 5th av.....	E. L. Roberts.
Dwelling.....	57th st, s s, 75 w of 1st av.....	Russell Sturgis & Co.
Dwelling for P. Lorillard.....	5th av, n e cor 36th st.....	J. B. Snook.
Dwellings (2).....	Park av, s e cor 37th st.....	Chas. W. Clinton and W. A. Patten.
Dwellings (8).....	5th av, e s, 55th e s, 56th st.....	D. Lienau.
Dwellings (2).....	49th st, s s, 300 w of 5th av.....	W. Wheeler Smith.
Stuyvesant Apartment House.....	18th st, 100 w 3d av.....	Richard M. Hunt.
Dwellings (2).....	45th st, n s, 150 e of 5th av.....	Chas. W. Clinton and Lawrence.



JUDSON MEMORIAL CHURCH
(1892)

Washington Square, New York City.

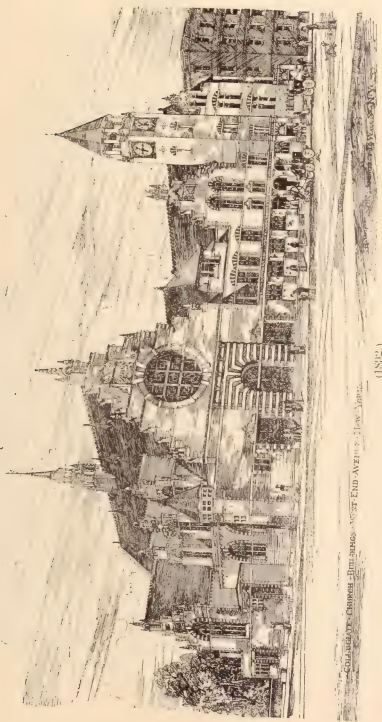
McKim, Mead & White, Architects



GREENWICH SAVINGS BANK.
(1892.)

Sixth Avenue and 16th Street.

R. W. Gibson, Architect.



CATHEDRAL OF THE HOLY CROSS, BROOKLYN, N. Y. (1872)

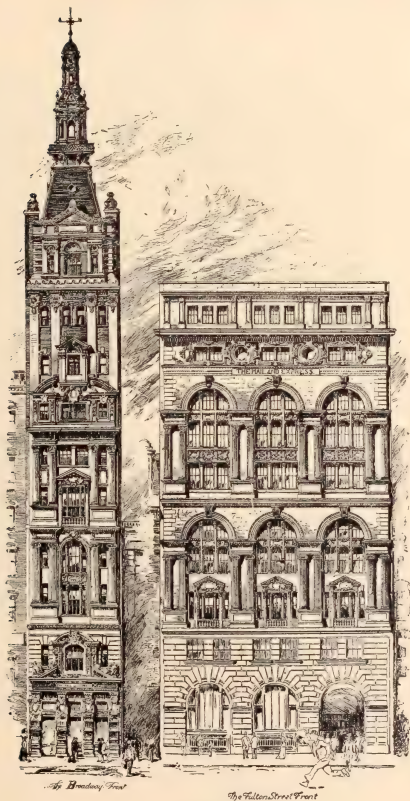


THE STOKES BUILDING.

No. 47 Cedar Street, New York City.

Clinton & Russell, Architects.

(1893.)



The Broadway Front
 The Fulton Street Front
 MAIL AND EXPRESS BUILDING.
 Broadway and Fulton Street, New York City. C. rière & Hastings, Architects.
 (1893.)

1870.

Guardian Sav. Bank Building.....	4th av, s e cor 14th st	Fernbach & Kendal.
Seamen's Bank for Savings.....	No 74 Wall st.....	R. G. Hatfield.
Appleton & Co.'s building.....	Nos 1, 3 and 5 Bond st.....	S. D. Hatch.
Iron store building (8-sty).....	Nos 749 and 551 Broadway.....	Renwick & Sands.
The Kemp Building.....	William st, n e cor Cedar.....	Griffith Thomas.
Iron store building (5-sty).....	No. 259 Broadway.....	R. G. Hatfield.
Chickering Hall	No 11 East 14th st.....	George B. Post.
Synagogue	Lexington av, s w cor 55th st.....	Henry Fernbach.
Fourth German Pro. Dutch Church.....	40th st, s s, bet 7th and 8th avs.....	W. Wheeler Smith.
West Presbyterian Church	40th st, n s, bet 9th and 10th avs.....	E. D. Lindsey.
First Baptist Church.....	39th st, n w cor Park av.....	Henry Dudley.
Mt. Sinai Hospital.....	Lexington av, bet 60th and 67th sts.....	Griffith Thomas.
Presbyterian Hospital	70th and 71st sts, 4th and Madison avs.....	Richard M. Hunt.
Brick dwelling (5-sty).....	37th st, s s, 61.4 w of Park av.....	Clinton & Potter.
Two 5-sty dwellings.....	62d st, s w cor 8th av.....	George B. Post.
Four-sty dwelling	Madison av, n e cor 40th st.....	Charles W. Clinton.

1871.

Lenox Library.....	5th av, bet 70th and 71st sts.....	Richard M. Hunt.
Five-sty brownstone store.....	No 1160 Broadway.....	Richard M. Hunt.
Five-sty iron front store.....	Nos 741 $\frac{1}{2}$ to 476 $\frac{1}{2}$ Broadway.....	Richard M. Hunt.
Church of the Covenant.....	42d st, s s, 100 e of 2d av.....	J. C. Cady.
St. Bartholomew Church.....	Madison av and 44th st.....	Renwick & Sands.
Schoolhouse	Church st, s w cor Thames st.....	R. M. Upjohn.
Foundling Asylum	68th st, n s, 80 e of Lexington av.....	N. Le Brun.



CARYATIDES—MAIL AND EXPRESS BUILDING.

Broadway and Fulton Street.

(1893.)

Carrère & Hastings, Architects.
F. Martiny, Sculptor.

1872.

Drexel Building	Wall st, s e cor Broad st.	A. Gillman.
Five-story office building, 49x101	No 50 Wall st.	Griffith Thomas.
Domestic Sewing Machine Building	Broadway, s w cor 14th st.	Griffith Thomas.
Berrétt Building	Nassau st, w s, Ann to Fulton st.	A. Gillman.
Five-story brownstone office building	Union place, w s, 65 s of 16th st.	Richard M. Hunt.
King St. Mission Church (Presbyterian)	Nos 7 and 9 King st.	J. C. Cady.
Calvary Church	22d st, s s, 210 e of 3d av.	Charles C. Haight.
St. George's Church, chapel and school	No 420 E 14th st.	Leopold Eldlitz.
St. Ann's Church	127th st, n s, 110 e 4th av.	Henry M. Congdon.
Newsboys' Lodging House	Chambers, William and Duane sts.	Leopold Eldlitz.
Four-story dwelling	57th st, s s, 203 w of 5th av.	Russell Sturges.
Store and flat building (6-sty)	5th av, n e cor 28th st.	George B. Post.
Five-story dwellings	5th av, s w cor 51st st.	Chas. W. Clinton.

1873.

Phillip Presbyterian Church	Madison av, n e cor 73d st.	R. H. Roberts m.
Church of the Holy Trinity	Madison av, n e cor 42d st.	Leopold Eldlitz.
The Tribune Building	Park Row.	Richard M. Hunt.
Five-story warehouse	Nos 21 and 23 Peck slip.	Richard M. Hunt.
Five-story iron front store	Broadway, e s, 50 s of Broome st.	Richard M. Hunt.
Western Union Building (10½-sty)	Broadway, n w cor Bay st.	George B. Post.
D. & H. Canal Co.'s building	Nos. 17 and 21 Cortlandt st.	Richard M. Hunt.
Atlantic Savings Bank Building	No 228 Bowery.	Hy. Engelbert.
H. B. Chadlin & Co.'s store	Nos 22 to 28 Leonard st.	W. H. Hazard.
Hotel	Broadway, w s, 61 S n 41st st.	John B. Snook.
Rutgers Presbyterian Church	Madison av, s w cor 20th st.	S. A. Warner.
Four-story dwellings	5th av, n w cor 50th st.	Chas. W. Clinton.
Four 4-story dwellings	Nos 219 to 225 E 62d st.	Richard M. Hunt.
Three-story dwelling	61st st, n s, 75 feet e of 3d av.	Richard M. Hunt.



MANHATTAN BUILDING.

Broadway, New York City.

Kinball & Thompson, Architects.

(1893.)



MANHATTAN BUILDING.

Broadway entrance.

Kimball & Thompson, Architects.

(1893.)



New Street entrance.

MANHATTAN BUILDING.

Kimball & Thompson, Architects.

1874.

Equitable Life Building.....Nos 78 to 82 Cedar st and No 12 Pine st.....E. H. Kendall.
 Three-story residences.....Nos 730 to 734 5th av.....Geo. E. Harding.

1875.

N. Y. Hospital.....Nos 9 to 21 W 15th st.....George R. Post.
 Chapel.....14th st, s. s. west of 3d av.....Potter & Robertson.
 Seven-story brick and iron building.....Lafayette place, s w cor Astor place.....Griffith Thomas.
 Chickering Hall.....54th av, n w cor 18th st.....George R. Post.
 Greenwich Savings Bank.....No 71 6th av.....Griffith Thomas.
 Dime Savings Bank.....32d st, Broadway to 6th av.....S. D. Hatch.

1876.

Church of Paulist Fathers.....9th av, s w cor 60th st.....Jeremiah O'Rourke.
 First Reformed Episcopal Church.....Madison av, n e cor 55th st.....James Stroud.
 Central Presbyterian Church.....57th st, s. s. 100 w 7th av.....Wm. R. Mead.
 Chapel and school.....East Houston st, s. s. 100 w Chrystie.....Potter & Robertson.
 Am. News Co. Building.....Nos 39 and 41 Chambers st.....Griffith Thomas.
 Altman & Co. s store.....6th av, s w cor 19th st.....D. & J. Jardine.
 Five-story office building.....Nos 62 and 64 Cedar st.....D. Lienau.

1877.

Seventh Regiment Armory.....4th av, e. s. 66th to 67th st.....Chas. W. Clinton.
 Seven-story office building.....No 43 Wall st.....A. H. Thorpe.
 Metropolitan Trust Building.....Nos 37 and 39 Wall st.....Clinton & Pirsson.
 Seven-story apartment house.....4th av, n e cor 18th st.....Emil Grete.

1878.

Columbia College Building	Madison av., e s. 49th to 50th st.	C. C. Haight.
Eiselen Building	Broadway, Cedar and Thomas sts.	S. D. Hatch.
Morse Building	Beekman st., n e cor Nassau st.	Sullivan & Farnsworth.
Four-story residence	No 14 West 57th st.	J. Cleveland Cady.

1879.

Smith Building	Nos. 3, 5 and 7 Cortlandt st.	George B. Post.
Union League Club	5th av., n e cor 39th st.	Peabody & Stearns.
W. H. Vanderbilt's residences.	5th av. 51st to 52d st.	J. B. Snook and C. E. Atwood.
Cornelius Vanderbilt's residence.	5th av., n w cor 57th st.	George B. Post.
Wm. K. Vanderbilt's residence.	5th av., n w cor 52d st.	Richard M. Hunt.
Five-story residence	No. 371 5th av.	McKim & Mead.
Seven-story apartment house	5th av., n e cor 42d st.	Wm. Field & Son.

1880.

United Bank Building.	Broadway, n e cor Wall st.	Peabody & Stearns.
The Dakota	Central Park, West, 72d to 73d st.	Henry J. Hard-embergh.
Deaf Mutes Institution	Lexington av., w s. 67th to 68th st.	Henry Fernbach.
Office building	No. 55 Broadway	Rabb & Cook.
Post Building	Hanover st., w s. Exchange pl to Beaver st.	George B. Post.
London, Liverpool and Globe Building.	Nos. 41 and 43 Pine st. and William st.	Stephen D. Hatch.
Four-story residence	5th av., s w cor 49th st.	George B. Post.
Five-story residence	5th av., s e cor 48th st.	Edward H. Kendall.
Five-story residence	5th av., e s. 50 n 69th st.	Edward H. Kendall.
H. O. Armour residence.	5th av. and 67th st.	C. W. Clinton.
Manhattan Eye and Ear Hospital.	41st st and Park av.	Lamb & Rich.
Warehouse	Nos. 173 and 175 Duane st.	Charles C. Haight.
		Rabb & Cook.



Nassau Street, New York City.

FULTON BUILDING.

(1893.)

De Lemos & Cordes, Architects.



Front Street.

OFFICE BUILDING.
(1893.)

Henry J. Hardenbergh, Architect.



MUTUAL RESERVE FUND BUILDING.

Corner Broadway and Duane Street.

(1894.)

W. H. Hume, Architect.



THE CONTINENTAL INSURANCE COMPANY'S BUILDING.
Cedar Street, New York City.

(1894.)

Clinton & Russell, Architects.

1881.

Mills Building	Wall st and Broad st.....	George B. Post.
Produce Exchange	Bowling Green	George B. Post.
Temple Court	Beeckman st, n w cor Nassau st.....	Silliman & Farnsworth.
Guernsey Building.....	Nos. 162 and 164 Broadway	Richard M. Hunt.
Seven-sty office building.....	No. 63 Wall st.....	James Renwick.
Seven-sty office building.....	No. 67 Wall st.....	D. Lenau.
Columbia College	49th st, n s, bet Madison and 4th avs.....	Charles C. Haigt.
Harlem Club	123d st and Lenox av.....	Lamb & Rich.
Liederkranz Club House	Nos. 111, 113, 115 and 119 E. 58th st.....	Wm. Kuhles and H. J. Schwarzman.
Metropolitan Opera House	Broadway, w s, 39th to 43th st.....	J. C. Cady.
Home for Indigent Females	10th av, s e cor 104th st.....	Richard M. Hunt.
Casino Theatre	Broadway, s e cor 39th st.....	Kimball & Wisdell.
Lam Hotel	15th st, Nos. 102 to 106 E.....	James E. Ware.
Murray Hill Hotel	Park av, s w cor 41st st.....	S. D. Hatch.
Hotel	University pl, s e cor 11th st.....	Henry J. Hardenbergh.
Building	Nos. 14 to 20 Broadway	Shaw & Anderson.
W. D. Sloane store.....	Broadway, s e cor 19th st.....	W. Wheeler Smith.
H. G. Marquand residences.....	Madison av, n w cor 68th st.....	Richard M. Hunt.
John Sloane residence.....	No. 997 5th av.....	R. H. Robertson.
Four-sty residence	No. 28 West 54th st.....	R. H. Robertson.
Stuart residence	5th av, n e cor 68th st.....	William Schickel.

1882.

Washington Building	Battery Place	Edward H. Kendall.
E Bryant Building	Nassau st, Liberty st and Liberty pl.	A. J. Bloor.
Union Theological Seminary	4th av, w s, 69th to 76th st.	Potter & Lord.
Harlem Congregational Church	Madison av, n e cor 121st st.	Lawrence B. Valk.
M. E. Church	Park av, s e cor 86th st.	J. C. Cady & Co.
Rectory	Madison av, s w cor 51st st.	James Renwick.
Gramercy Park Hotel	Gramercy Park, n e cor 29th st.	G. W. Du Cunha.
Hotel Vendome	Broadway, n w cor 36th st.	Augustus Hathfield.
Church and school	10th st, s w cor Av A.	J. Renwick and W. H. Russell.
St. Vincent's Hospital	Madison av, n e cor 60th st.	R. H. Robertson.
Navarro apartment houses	12th st, s s, 82 e 7th av.	William Schickel.
Kudkerbocker apartment house	7th av, e s, 58th to 59th st.	Hubert, Pirsson & Co.
Apartment house	5th av, s e cor 28th st.	Charles W. Clinton.
Manhattan storage warehouse	Madison av, n e cor 30th st.	Hubert, Pirsson & Co.
Warehouse	Lexington av, w s, 41st to 42d st.	James E. Ware.
Lincoln Safe Deposit Building	Nos. 440 to 444 Canal st.	Charles C. Haight.
Villard residence	42d st, s s, 155 w 4th av.	J. E. Snook.
Tiffany residences	Madison av, n w cor 50th st.	McKim, Mead & White.
Two 4-story residences	Madison av, n w cor 72d st.	McKim, Mead & White.
Eight 4-story residences	Nos. 23 and 25 East 67th st.	R. H. Robertson.
Four-story residence	Nos. 369 to 323 East 86th st.	George M. Huss.
Apartment house	No. 712 5th av.	R. H. Robertson.
	Charlton and King sts.	Charles C. Haight.



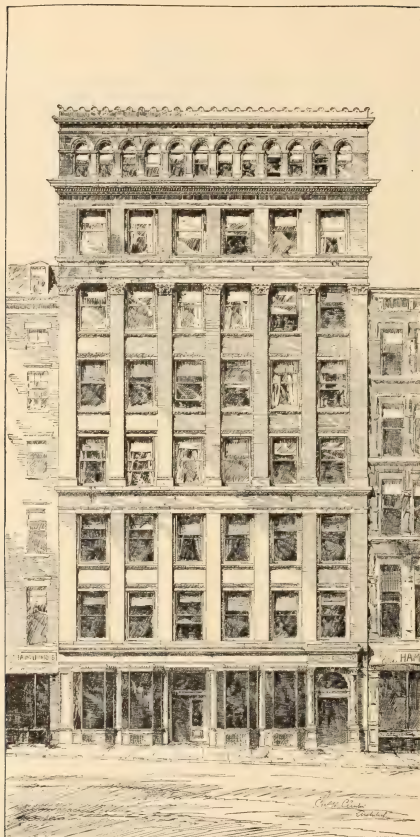
FIDELITY AND CASUALTY BUILDING.
Church Street, New York City. C. L. W. Eldlitz, Architect.
(1894.)



THE BANK FOR SAVINGS.
(1894.)

22d Street and Fourth Avenue.

C. L. W. Eldridge, Architect.



THE STEVENS BUILDING.

Maiden Lane.

Chas. W. Clinton, Architect.



THE JOHN WOLFE BUILDING.

Maiden Lane and William Street.

Henry J. Hardenbergh, Architect.

(1893.)

1883.

Mutual Life Ins. Co.'s Building.....	Nassau st. bet Liberty and Cedar sts.....	Chas. W. Clinton.
Western Union Building.....	5th av. s w cor 25d st.....	Henry J. Hardenbergh.
Cotton Exchange	Beaver st. William st and Pearl st.....	George F. Post.
Porter Building	Park Row	N. G. Starkweather.
Williamsburgh City Fire Ins. Co.'s Building.....	No. 150 Broadway and Nos. 71 and 73 Liberty st.....	F. Charles Merry.
Commercial Union Assoc. Co.'s Building.....	No. 46 Pine st.....	G. E. Harney.
Eight-story store building	Broadway, n w cor 19th st.....	E. H. Keddall.
Eden Musee	No. 55 West 25d st.....	Henry Fernbach.
Genl. Theological Seminary (Lecture Hall).....	21st st. s. s. 108 w 9th av.....	Charles C. Haight.
Washington Market	Washington, Fulton, West and Vesey sts.....	Douglas Smyth.
Two 5-story store buildings.....	Broadway, s e cor 22d st.....	Charles C. Haight.
Three 7-story warehouse.....	Greenwich st. Vestry to Desbrosses st.....	Charles C. Haight.

1884.

Mortimer Building	Nos. 9 and 11 Wall st.....	George R. Post.
Brooklyn Life Ins. Co.'s Building.....	No. 51 Liberty st.....	F. Charles Merry.
Standard Oil Co.'s Building.....	Nos. 24, 26 and 28 Broadway.....	E. L. Roberts.
Eagle Fire Co.'s Building.....	Nos. 71 and 73 Wall st.....	G. E. Harney.
The N. Y. Mercantile Exchange.....	Hudson st. n w cor Harrison st.....	Thos. R. Jackson.
Seven-story warehouse	Greene st. s e cor Bleeker st.....	Alfred Zucker.
N. Y. Cancer Hospital.....	8th av. w s. 105th to 106th st.....	Charles C. Haight.
Y. M. C. A. Building.....	Nos. 222 and 224 Bowery.....	Bradford L. Gilbert.
Twelfth Regiment Armory	9th av. w s. 61st to 62d st.....	James E. Ware.

1887.

Eight-story office building.....	Nos. 8, 10 and 12 Wall st.....	Henry J. Hardenbergh.
Emigrant Industrial Savings Bank.....	Nos. 49 and 51 Chambers st.....	Wm. H. Hume.
De Vinne Printing House.....	Lafayette pl, n e cor 4th st.....	Babb, Cook & Willard.
Young Women's C. A. Building.....	No. 7 East 15th st.....	R. H. Robertson.
Church of the Reformation (Episcopal).....	Stanton st, n s, 47 1/2 w Norfolk st.....	Charles C. Haight.
Ogden Mills' residence.....	5th av, s e cor 68th st.....	R. M. Hunt.
The Alpine Apartment House.....	Broadway, n e cor 33d st.....	D. & J. Jardine.
Five-story residence.....	No. 11 West 52d st.....	R. M. Hunt.

1886.

Central Trust Co.'s Building.....	No. 54 Wall st.....	Chas. W. Clinton.
Gallatin Bank Building.....	Nos. 34 and 36 Wall st.....	J. C. Cady & Co.
Met. Tel. and Telp. Co.....	Nos. 16 to 20 Cortlandt st.....	Cyrus L. W. Edlitz.
Aldrich Court.....	Nos. 41 to 45 Broadway.....	Youngs & Cable.
Six-story store.....	Broadway, s e cor 20th st.....	McKim, Mead & White.
Col. Physicians and Surgeons.....	59th st, n s, bet 9th and 10th avs.....	W. Wheeler Smith.
Y. M. C. A. Building.....	125th st, n s, 120 w 5th av.....	Bradford L. Gilbert.
Sloane Maternity Hospital.....	10th av, n e cor 58th st.....	W. Wheeler Smith.
Freundschaft Club.....	4th av, s e cor 72d st.....	McKim, Mead & White.
Arion Club.....	Park av, s e cor 59th st.....	De Lemos & Cordes.
Down Town Club.....	Nos. 60 and 62 Pine st.....	Charles C. Haight.
Dispensary, Presbyterian Hospital.....	Madison av, n e cor 70th st.....	J. C. Cady & Co.
School and Parish offices.....	Church st, e s, Vesey to Fulton st.....	Charles C. Haight.
R. R. Men's Club House.....	Madison av, n e cor 45th st.....	R. H. Robertson.
Six-story flat.....	Av C, s w cor 14th st.....	Charles C. Haight.



RESIDENCE OF CHARLES T. YERKES, ESQ.

Fifth Avenue and 68th Street.

R. H. Robertson, Architect.

(1896.)



FAHYS BUILDING.

Malden Lane.

(1896.)

Clinton & Russell, Architects.



THE GERKEN BUILDING.

West Broadway and Chambers Street, New York City. Harding & Gooch, Architects.



TOP OF AMERICAN TRACT SOCIETY BUILDING.

(1896.)

R. H. Robertson, Architect.

1887.

Consolidated Exchange	Broadway, Nos. 78 to 62.....	E. D. Lindsay.
Central Turn Verein	67th st, Nos. 266 to 215 East.....	Albert Wagner.
Mount Morris Baptist Church.....	5th av, w s, 75 n 124th st.....	Henry F. Kilburn.
Presbyterian Church.....	73d st, s w cor Boulevard.....	R. H. Robertson.
Trinity Mission House.....	No. 269 Fulton st.....	H. M. Congdon.
Montefiore Home	11th av, e s, 138th to 139th st.....	Euchman & Brunner & Tryon.
Brokaw residence	54th av, n e cor 75th st.....	Rose & Stone.
Five-story dwelling	63th st, No. 6 East.....	R. M. Hunt.
Four-story dwelling	50th st, n s, 155 e Madison av.....	Charles C. Haight.

1888.

United States Trust Co.'s Building.....	Nos. 45 and 47 Wall st.....	R. W. Gibson.
Judge Building	5th av, n w cor 16th st.....	McKim, Mead & White.
Methodist Book Concern Building.....	5th av, s w cor 29th st.....	E. H. Kendall.
Met. Tel. and Tel. Co.'s Building.....	38th st, Nos. 111 to 115 West.....	C. L. W. Eidlitz.
Bank of America.....	Nos. 44 and 46 Wall st.....	Chas. W. Clinton.
Mechanics' Nat'l Bank.....	No. 33 Wall st.....	Chas. W. Clinton.
Market and Fulton Nat'l Bank.....	Nos. 81 and 83 Fulton st.....	W. B. Tubby.
Corbin Building	Broadway, n e cor John st.....	F. H. Kimball.
Eight-story building	Broadway, n e cor 31st st.....	Lamb & Rich.
Warehouse	Lafayette pl, n w cor Great Jones st.....	H. J. Hardenbergh.
Western Electric Co.'s Building.....	Greenwich st, Nos. 127 to 131.....	C. L. W. Eidlitz.
Episcopal Church and School.....	6th av, s e cor 122d st.....	W. A. Potter.
Presbyterian Hospital, Chapel, etc.....	Madison av, e s, bet 70th and 71st sts.....	J. C. Gady & Co.
Twenty-second Regiment Armory.....	Boulevard, 9th av, 67th and 68th sts.....	J. P. Leo.
Progress Club	5th av, n e cor 63d st.....	A. Zucker & Co.
The Harlem Club	122d st, s e cor Lenox av.....	Lamb & Rich.
Van Ingen residence	71st st, n s, 215 e 5th av.....	R. H. Robertson.
De Vinne residence.....	West End av, s w cor 76th st.....	Babb, Cook & Willard.
Yosonife Apartment House	Park av, n w cor 62d st.....	McKim, Mead & White.

1889.

Madison Square Garden	Madison and 4th avs, 26th and 27th sts.	McKim, Mead & White.
Pulitzer Building	Park Row	George B. Post.
Union Trust Co.'s Building	Nos. 78 to 82 Broadway.	George B. Post.
Wilks Building	Wall st, s w cor Broad st.	Chas. W. Clinton.
Farmers' Loan and Trust Co.'s Building	Nos. 16 to 22 William st.	Chas. W. Clinton.
C. R. of N. J. Building	Liberty st, n s, from Washington to West st.	Peabody & Stearns.
Manhattan Savings Inst. Building	No. 464 Broadway.	S. D. Hatch.
Edison Building	No. 42 Broad st.	Carrère & Hastings.
Lancashire Ins. Co.'s Building	No. 25 Pine st.	J. C. Cady & Co.
Carnegie Hall	7th av, s e cor 57th st.	W. B. Tuthill.
Imperial Hotel	Broadway, s e cor 52d st.	McKim, Mead & White.
Sun Building	No. 54 Pine st.	A. D. Pickering.
Six-story office building	No. 124 Fulton st.	De Lemos & Cordes.
Ten-story office building	Nos. 549 to 553 Broadway.	A. Zucker & Co.
Deutscher Verein	58th st, s s, 125 w 6th av.	McKim, Mead & White.
Century Club	43d st, n s, 125 w 5th av.	P. J. Lauritzen.
Manhattan Athletic Club	Madison av, s e cor 45th st.	R. H. Robertson.
N. Y. Academy of Medicine	43d st, n s, 245 w 5th av.	R. H. Robertson.
Lodging house	16th st, Nos. 14 and 16 East.	R. H. Robertson.
St. Agnes' Episcopal Chapel	92d st, s s, 150 w 9th av.	W. A. Potter.
Lutheran Church	Madison av, s w cor 73d st.	W. A. Potter.
Methodist Church	104th st, n s, 250 w 9th av.	J. C. Cady & Co.
Rutgers Riverside Church	Boulevard, s w cor 73d st.	R. H. Robertson.
St. Andrew's Church	5th av, n e cor 127th st.	H. M. Congdon.
St. Andrew's M. E. Church	76th st, w s, 225 w 9th av.	J. C. Cady & Co.
Christ Church	Boulevard, n w cor 71st st.	C. C. Haught.
All Saints' Church	129th st, n e cor Madison av.	Renwick, Aspinwall & Russell.
Park Presbyterian Church	10th av, n e cor 86th st.	H. P. Kilburn.
Huntington residence	5th av, s w cor 57th st.	George B. Post.
Hayne residence	Riverside Drive, s e cor 108th st.	Frank Freeman.
Robb residence	Nos. 19 to 23 Park av.	McKim, Mead & White.
H. O. Havemeyer residence	5th av, n e cor 66th st.	C. C. Haught.



BAR ASSOCIATION BUILDING.
(1896.)

44th Street, near Fifth Avenue.

C. L. W. Eldlitz, Architect.



RESIDENCE OF R. M. BULL, ESQ.
No. 40 East 40th Street. Clinton & Russell, Architects.
(1897.)



THE ST. PAUL BUILDING.

Broadway and Ann Street, New York City.

George B. Post, Architect.

(1897.)



THE ST. JAMES BUILDING.

Broadway and 26th Street, New York City.

(1897.)

Bruce Price, Architect.

1890.

Waldorf Hotel	5th av, n w cor 33d st.....	H. J. Hardenbergh.
New Netherlands Hotel	5th av, n e cor 59th st.....	W. H. Hume.
Holland House (Plans also filed in 1889).....	Nos. 274 to 280 5th av.....	G. E. Harding & Co.
Savoy Hotel	5th av, s e cor 50th st.....	R. S. Townsend.
Metropolitan Life Ins. Building	Madison av, n e cor 25d st.....	N. Le Brun & Sons.
Criminal Courts Building	Centre st	Thom, Wilson & Schaarschmidt.
Clinton Hall	Astor and Lafayette pls.....	G. E. Harney.
Eight-story office building	Nos. 636 to 702 Broadway.....	George B. Post.
London and Lancashire Fire Ins. Co.'s Building.....	Nos. 57 and 59 William st.....	H. J. Hardenbergh.
Warren Building	Broadway, n w cor 20th st.....	McKim, Mead & White.
Met. Telephone Building	Broad st, n e cor Pearl st.....	C. L. W. Eidlitz.
Stokes Building	Nos. 45 to 49 Cedar st.....	Chas. W. Clinton.
Greenwich Savings Bank	4th av, s e cor 16th st.....	R. W. Gibson.
W. U. Tel. Co.'s Building	No. 8 Dey st.....	H. J. Hardenbergh.
"Delmonico's"	Nos. 2, 4, 6 South William st.....	James B. Lord.
Columbia Building	No. 29 Broadway	Youngs & Cable.
Office building	Nos. 38 and 40 New st.....	Carriere & Hastings.
Pierce Building	Hudson st, n w cor Franklin st.....	Carriere & Hastings.
McIntyre Building	Broadway, n e cor 18th st.....	R. H. Robertson.
Racquet Club	43d st, n s, bet 5th and 6th avs.....	C. L. W. Eidlitz.
Colonial Club	Boulevard, s w cor 72d st.....	Henry F. Kilburn.
Harrigan's Theatre (now The Garrick).....	55th st, n s, 100 e 6th av.....	F. H. Kimball.
Berkeley School Building	Nos. 16 to 24 44th st.....	Lamb & Rich.
Brearley School.....	Nos. 15 and 17 West 44th st.....	Henry Rutgers Marshall.
Half-Orphan Asylum	Manhattan av, n e cor 104th st.....	J. C. Cady & Co.
Webb Home for Sailors.....	Sedgwick av and Academy st.....	A. B. Jennings.
Judson Memorial Church	Nos. 54 to 57 Washington sq. South.....	McKim, Mead & White.
St. Bartholomew's Building	Nos. 205 to 209 East 42d st.....	Renwick, Aspinwall & Russell.
Y. M. C. A. building.....	57th st, s s, 200 w 8th av.....	W. Halsey Wood.
St. Michael's Church	Amsterdam av, n w cor 99th st.....	R. W. Gibson.
Temple Beth-el	5th av, s e cor 76th st.....	Brunner & Tryon.
Four-story residence	86th st, n s, 176 e Riverside Drive.....	C. L. W. Eidlitz.
Five-story residence	Park av, w s, 117 n 39th st.....	C. C. Haight.
Five-story residence	Park av, n w cor 39th st.....	Renwick, Aspinwall & Russell.
Five-story residence	5th av, s e cor 78th st.....	R. M. Hunt.

1891.

Havemeyer Building	Cortlandt and Church sts.	George R. Post.
Mail and Express Building	No. 263 Broadway	Carrere & Hastings.
Mohawk Building	5th av. s w cor 21st st.	R. H. Robertson.
Kennedy Building	4th av. n e cor 22d st.	R. H. Robertson.
D. L. & W. R. R. Building.	Exchange pl.	L. C. Holden.
Wolff Building	Nassau st. s w cor Fulton st.	De Lemos & Cordes.
Vanderbilt Building	Nos. 15 and 17 Beekman st.	McKim, Mead & White.
Third Ave. R. R. Power-house.	Bowery, n w cor Bayard st.	A. Wagner.
J. Munroe Taylor Building.	Nos. 39 and 41 Cortlandt st.	O. Wirz.
Morris Building	Nos. 64 and 68 Broad st.	Youngs & Cable.
Edison E. H. Co.'s Building.	Elm st. Pearl and Duane sts.	Buchman & Deisler.
Germania Building	No. 64 William st.	Lamb & Rich.
Office building	Nos. 133 to 137 Front st.	R. W. Gibson.
Metropolitan Club	5th av. n e cor 60th st.	McKim, Mead & White.
Am. Fine Arts Building.	Nos. 211 to 215 West 57th st.	H. J. Hardenbergh.
Seventy-first Regiment Armory	4th av. e s, bet 33d and 34th sts.	W. C. Hunting.
Club house	Boulevard, s e cor 67th st.	J. C. Jacobsen.
Club house	Nos. 113 to 119 West 40th st.	J. R. Thomas.
Fifth Ave. Theatre	Nos. 29 to 35 West 28th st.	McKim, Mead & White.
Majestic Hotel	Central Park West, bet 70th and 71st sts.	R. H. Robertson.
Five-story dwelling	No. 3 East 56th st.	F. H. Kimball.
Matthews residence	Riverside Drive, n e cor 90th st.	Alfred Zucker.
Inman residence	No. 874 5th av.	Rotch & Tilden.
Burden residence	5th av. s e cor 72d st.	Lamb & Rich.
H. O. Havemeyer residence.	No. 872 5th av.	R. H. Robertson.
West End Presbyterian Church.	Amsterdam av. n e cor 105th st.	R. H. Robertson.
First Baptist Church	Boulevard, n w cor 79th st.	C. C. Halght.
St. Luke's Episcopal Church.	Convent av. e s, 200 n 141st st.	H. F. Kilburn.
Church (Roman Catholic).	Amsterdam av. n w cor 96th st.	George Kelster.
Episcopal Church of the Holy Nativity.	13th st. n s, 475 w Lenox av.	R. H. Robertson.
Church (Baptist).	Boulevard, n e cor 104th st.	T. H. Poole.
Reformed Protestant Dutch Church.	West End av. n e cor 77th st.	C. C. Halght.
		H. F. Kilburn.
		R. W. Gibson.



Nos. 20 and 22 West 73d Street.

RESIDENCES.
(1897.)

Clinton & Russell, Architects.



WOODBIDGE BUILDING.

William St., bet. John and Platt Sts.

(1898.)

Clinton & Russell, Architects.



WESTERN NATIONAL BANK.
Nassau and Pine Streets, New York City. George B. Post, Architect.
(1898.)



EXCHANGE COURT.

Broadway and Exchange Place.

(1898.)

Clinton & Russell, Architects.

1892.

Cable Building	Broadway, n w cor Houston st.....	McKim, Mead & White.
Postal Telegraph Building	Broadway, n w cor Murray st.....	Harding & Gough.
Mutual Reserve Building	Broadway, n w cor Duane st.....	W. H. Hume.
Office Building	Nos. 43 and 95 William st.....	C. L. W. Eidlitz.
Herald Building	Broadway, 4th av, 35th and 36th sts.....	McKim, Mead & White.
Wheeler Building	Rose st, s w cor Duane st.....	W. H. Russell.
Park & Tilford's store	72d st, s w cor Columbus av.....	McKim, Mead & White.
Mutual Life Building (additions)	Nos. 28 to 36 Liberty st.....	C. W. Clinton.
Home Life Ins. Building	No. 256 Broadway	N. Le Brun & Sons.
Tarrant Warehouse	Greenwich st, n w cor Warren st.....	Henry Rutgers Marshall.
Theatre	Nos. 247 to 259 West 41st st.....	C. C. Haight.
Church and school (Roman Catholic)	Nos. 446 to 452 West 52d st.....	N. Le Brun & Sons.
Hospital	2d av, n e cor 20th st.....	W. B. Tuthill.
Office building	4th av, s e cor 22d st.....	R. W. Gibson.
Hayles residence	5th av, s e cor 71st st.....	Boring, Tilton & Mellen.
Sherman residence	5th av, s e cor 65th st.....	W. H. Russell.
Homans residence	75th st, s s, 177 w West End av.....	R. H. Robertson.
McIntyre residence	75th st, s s, 160 w West End av.....	R. H. Robertson.
Colby residence	Nos. 8 and 10 East 69th st.....	Peabody & Stearns.
Hertter residence	Nos. 817 and 819 Madison av.....	Carre & Hastings.
Hoe residence	No. 11 East 71st st.....	Carre & Hastings.

1893.

Manhattan Life Ins. Building.....	Nos. 64 to 68 Broadway.....	Kimball & Thompson.
Lawyers' Title Ins. Co.'s Building.....	Nos. 44½ and 46 Maiden lane.....	C. C. Haight.
Corn Exchange Bank Building.....	William st, n w cor Beaver st.....	J. H. Robertson.
Continental Fire Ins. Co.'s Building.....	Nos. 44 to 48 Cedar st.....	C. W. Clinton.
Bowery Savings Bank.....	Nos. 128 and 130 Bowery.....	McKim, Mead & White.
Wallace Building.....	Nos. 56 and 58 Pine st.....	O. Wirz.
Stevens Building.....	No. 3 Maiden lane.....	C. W. Clinton.
Kuhn, Loeb & Co.'s Building.....	Nos. 27 and 29 Pine st.....	De Lemos & Cordes.
Store Building.....	Broadway, n w cor 13th st.....	S. D. Hatch.
N. Shoe and Leather Bank Building.....	Broadway, s w cor Chambers st.....	J. C. Cady & Co.
Scribner Building.....	Nos. 151 to 155 5th av.....	Ernest Flagg.
Bank for Savings.....	4th av, s w cor 22d st.....	C. L. W. Eldlitz.
Life Building.....	Nos. 19 and 21 West 31st st.....	Carrière & Hastings.
Constable Building.....	5th av, n e cor 18th st.....	W. Schickel & Co.
Office building.....	No. 9 Stone st.....	H. Gilvary.
St. John's Cathedral.....	Amsterdam and Morningside avs.....	Helms & La Farge.
Harvard Club.....	Nos. 27 and 29 West 44th st.....	McKim, Mead & White.
St. Luke's Hospital.....	Amsterdam av, e s, bet 13th and 14th sts.....	Ernest Flagg.
N. Y. Hospital.....	Hudson st, n w cor Jay st.....	J. C. Cady & Co.
Infirmary.....	10th av, s e cor 59th st.....	R. W. Gibson.
Hospital.....	48th st, n s, 186 w Columbus av.....	Lamb & Rich.
Trinity Corp. School.....	91st st, n s, 400 w Columbus av.....	C. C. Haight.
Scotch Presbyterian Church.....	Central Park West, s w cor 90th st.....	W. H. Hume.
Fourth Presbyterian Church.....	West End av, s w cor 91st st.....	Helms & La Farge.
Madison Ave. Reformed Church Mission.....	1st av, s w cor 60th st.....	Rose & Stone.
Mission House.....	No. 1147 1st av.....	Rowe & Baker.
Teachers' College.....	121st st, s s, 300 w Amsterdam av.....	Win. A. Potter.
College of Pharmacy.....	2d av, n e cor 13th st.....	Little & O'Connor.
John J. Astor residence.....	No. 840 5th av.....	R. M. Hunt.
Brown residence.....	Madison av, s w cor 72d st.....	McKim, Mead & White.
Yerkes residence.....	5th av, s e cor 68th st.....	George B. Post.
Baldwin residence.....	No. 1 East 56th st.....	R. H. Robertson.
Alexander residence.....	No. 6 East 64th st.....	R. H. Robertson.
Martin residence.....	No. 802 5th av.....	H. F. Kilburn.
Hoyt residence.....	75th st, s s, 217 w West End av.....	Babb, Cook & Willard.
Fivestry residence.....	74th st, n s, 222 w West End av.....	Charles P. H. Gilbert.



THE SAMPSON BUILDING.

Wall Street, New York City.

(1898.)

Clinton & Russell, Architects.



UPPER STORIES OF SAMPSON BUILDING.
Wall Street, New York City. Clinton & Russell, Architects.
(1898.)



THE HUDSON BUILDING.

Nos. 32 and 34 Broadway, New York City.
(1898.)

Clinton & Russell, Architects.



THE FRANKLIN BUILDING.
Nos. 9 to 15 Murray Street, New York City. Clinton & Russell, Architects.
(1898.)

1894.

Presbyterian Building	5th av, n w cor 20th st.....	Bowe & Baker.
N. Y. Clearing House	Nos. 77 to 83 Cedar st.....	R. W. Gibson.
American Tract Society's Building.....	Nos. 144 to 150 Nassau st.....	R. H. Robertson.
New York Life Building (rear).....	Elm st, Leonard st and Catharine lane.....	Stephen D. Hatch.
American Surety Building	Nos. 100 to 106 Broadway.....	Bruce Price.
University Building	University pl, Waverley to Washington pl.....	Alfred Zucker.
Wool Exchange	St. Johns lane, n e cor Beach st.....	W. B. Tubby.
Fahys Building	No. 54 Maiden lane.....	Clinton & Russell.
Wilkes Building	John st, s w cor Nassau st.....	Clinton & Russell.
Wolfe Building	No. 66 Maiden lane.....	H. J. Hardenbergh.
Fidelity and Casualty Building.....	Cedar st, n s, from Temple st to Trinity pl.....	C. L. W. Blalitz.
Mercantile buildings	Broadway, Washington pl, Waverley pl.....	R. Maynicke.
Coffee Exchange	Nos. 113 to 117 Pearl st.....	R. W. Gibson.
Hoffman House (new part).....	Broadway, s w cor 25th st.....	Alfred Zucker.
University City of New York.....	University av, s e cor Sodegwick av.....	McKim, Mead & White.
Fire engine house	White st, n e cor Elm st.....	N. Le Brun & Sons.
Grace Church, School, etc.....	Nos. 407 to 417 13th st.....	Barney & Chapman.
Chrch, Soc. Free Church of St. Mary.....	46th st, n s, 387.6 w 6th av.....	N. Le Brun & Sons.
Grace Methodist Episcopal Church.....	104th st, n s, 275 w Columbus av.....	Gandy, Borg & See.
Children's Aid Society Building.....	33d st, s s, 50 e 11th av.....	Clinton & Russell.
Taylor residence	71st st, n s, 125 e 5th av.....	McKim, Mead & White.
Blair residence	No. 6 East 61st st.....	R. H. Robertson.
Straus residence	72d st, n s, 425 w Central Park West.....	John H. Duncan.
Dorsett residence	72d st, s s, 375 e West End av.....	C. P. H. Gilbert.
Hoffmann residence (2).....	Nos. 22 and 24 West 72d st.....	Clinton & Russell.
Sloan residence	No. 9 East 72d st.....	Carrere & Hastings.
Emery residence	68th st, n s, 200 e 5th av.....	Peabody & Stearns.
Tilford residence.....	No. 245 West 72d st.....	Lamb & Rich.
Thompson residence	No. 297 Madison av.....	Montrose W. Morris.

1895.

St. Paul Building.....	Broadway, Park row and Ann st.....	George B. Post.
Howling Green Building.....	Nos. 5 to 11 Broadway.....	W. & C. Audsley.
N. Y. Life Building (front).....	Nos. 346 and 348 Broadway.....	McKim, Mead & White.
Woodbridge Building.....	Nos. 98 to 106 William st.....	C'inton & Russell.
Commercial Cable Building.....	Nos. 20 and 22 Broad st.....	Harding & Gooch.
Building.....	Nos. 30 to 36 Broad st.....	James B. Baker.
Siegel-Cooper Building.....	6th av, e s. 18th to 19th st.....	De Lemos & Cordes.
Syndicate Building.....	Nassau st, s w cor Liberty st.....	Lamb & Rich.
Sampson Building.....	Nos. 63 and 65 Wall st.....	C'inton & Russell.
Rhineland Building.....	Nos. 292 to 298 William st.....	C'inton & Russell.
Lord Court Building.....	Nos. 25 to 29 William st.....	John T. Williams.
Weld Building.....	Broadway, s w cor 12th st.....	George B. Post.
Building.....	Nos. 228 to 232 4th av.....	Richard Berger.
Columbia College Library.....	116th and 120th sts, Amsterdam av and Boulevard McKim, Mead & White.	
Bar Association Building.....	43d and 44th sts, 290 e 64th av.....	Cyrus L. W. Eidlitz.
Manhattan Hotel.....	42d st, n w cor Madison av.....	H. J. Hardenbergh.
N. Y. Athletic Club.....	6th av, s e cor 50th st.....	W. A. Cable.
Hotel Renaissance.....	No. 514 5th av.....	Howard & Caldwell.
Y. M. C. Assoc. Building.....	Nos. 317 to 319 West 56th st.....	Parish & Schroeder.
St. Nicholas Skating Rink.....	60th st, n s, 100 e Amsterdam av.....	Ernest Flagg.
St. Paul's M. E. Church.....	West End av, n e cor 86th st.....	R. H. Robertson.
Y M. C. A.....	Nos. 316 to 318 West 57th st.....	Parish & Schroeder.
Cutting residence.....	Nos. 24 and 26 East 67th st.....	Ernest Flagg.
Guthrie residence.....	No. 22 Park av.....	
Butler residence.....	Park av, n w cor 55th st.....	McKim, Mead & White.
Stimson residence.....	No. 372 West 75th st.....	Rabb, Cook & Willard.



THE GRAHAM BUILDING.
Duane and Church Streets. Clinton & Russell, Architects.
(1898.)



THE DUN BUILDING.
Northeast corner Broadway and Reade Street. Harding & Gooch, Architects.
(1898.)



THE COMMERCIAL CABLE BUILDING.
Broad Street, New York City. Harding & Gooch, Architects.
(1898.)



THE BANK OF COMMERCE.
Nassau Street, corner Cedar.

(1898.)

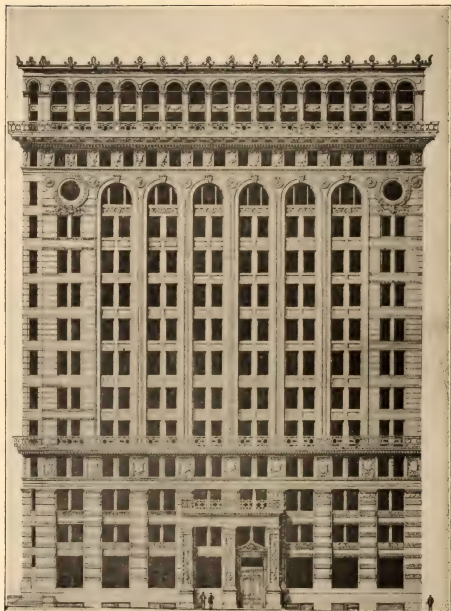
J. B. Baker, Architect.

1896.

Central Nat'l Bank Building.....	Broadway, n e cor Pearl st.....	John T. Williams.
Empire Building.....	Broadway, s e cor Rector st.....	Kimball & Thompson.
Havenmeyer Building.....	Broadway, n e cor Prince st.....	George B. Post.
Townsend Building.....	Broadway, n w cor 25th st.....	C. L. W. Eldlitz.
Building.....	Nos. 32 to 36½ Broadway.....	Clinton & Russell.
Gillender Building.....	Wall st, n w cor Nassau st.....	Berg & Clark.
Bank of Commerce.....	Nassau st, n w cor Cedar st.....	J. B. Baker.
St. James Building.....	Broadway, s w cor 26th st.....	Bruce Price.
Western Electric Building.....	Bethune st, s e cor West st.....	C. L. W. Eldlitz.
Exchange Court Building.....	Broadway, Exchange pl and New st.....	Clinton & Russell.
Sherry Building.....	5th av, s w cor 44th st.....	McKim, Mead & White.
Astor Court Building.....	Nos. 16, 18 and 20 West 34th st.....	H. J. Hardenbergh.
Dun Building.....	Nos. 290 to 294 Broadway.....	Harding & Gooch.
Western Nat'l Bank Building.....	Pine st, n w cor Nassau st.....	George B. Post.
Coe Estate Building.....	Nos. 626 and 638 Broadway.....	George B. Post.
Springler Building.....	Nos. 5, 7 and 9 Union sq West.....	Wm. H. Hume & Son.
Metropolitan Telephone Building.....	Nos. 13 to 17 Dey st.....	C. L. W. Eldlitz.
Grant Monument.....	Riverside Drive.....	J. H. Duncan.
D. O. Mills Hotel.....	Rivington st, n w cor Chrystie st.....	Ernest Flagg.
D. O. Mills Hotel.....	Bleecker, Sullivan and Thompson sts.....	Ernest Flagg.
Scarlet Fever and Diphtheria Hospital.....	16th st, n e cor bulkhead, East River.....	Renwick, Aspinwall & Owen.
N. Y. Skin and Cancer Hospital.....	Nos. 301 and 303 East 19th st.....	Cady, Berg & See.
Y. M. C. Assoc. Building.....	Nos. 138 to 162 East 87th st.....	Jas. E. Ware.
Home for Old Men, etc.....	Amsterdam av, n w cor 112th st.....	Cady, Berg & See.
Shearith Israel Synagogue.....	Central Park West and 70th st.....	Brunner & Tryon.
Studio, etc., Building.....	No. 51 West 33d st.....	Marsh, Israels & Harder.
Goodwin residence.....	54th st, n s, 225 w 5th av.....	McKim, Mead & White.

1897.

Washington Life Building	Broadway, s w cor Liberty st.	C. L. W. Eidlitz.
Singer Building	Broadway, n w cor Liberty st.	Ernest Flagg.
Astor Court	Nos. 21 to 25 West 33d st.	H. J. Hardenbergh.
N. Y. Telephone Co.'s Building	Nos. 30 to 34 Gold st.	C. L. W. Eidlitz.
Natural History Museum	Central Park West, n w cor 77th st.	Cady, Berg & See.
University Club	5th av., n w cor 54th st.	McKim, Mead & White.
American Society of Civil Engineers' Club	Nos. 218 and 220 West 57th st.	C. L. W. Eidlitz.
Hospital for Ruptured and Crippled	No. 414 Lexington av.	Charles C. Haight.
Church of Divine Paternity	Central Park West, s w cor 76th st.	Wm. A. Potter.
Episcopal Church of the Holy Trinity	88th st, s s, 175 w 1st av.	Barney & Chapman.
Levi P. Morton residence	No. 481 5th av.	McKim, Mead & White.
Trenholm residence	73d st, s s, 100, 11½ e Riverside Drive.	C. P. H. Gilbert.
Gebhard residence	79th st, s s, 150 e 5th av.	Bruce Price.



CHESEBROUGH BUILDING.

(Now building.)

Pearl and State Streets, New York City.

Clinton & Russell, Architects.

(1898.)

THE CHIEF WORK OF NEW YORK ARCHITECTS.

BABB, COOK & WILLARD.

Bldg. Completed.	Location.
1880.....	Residence Mrs. F. R. Brown, 104th st.
1880.....	Warehouse, 173 and 175 Duane st.
1881.....	Office building, 55 Broadway.
1885.....	Factory, Hanan & Son, Centre st, cor of White st.
1889.....	Residence Theo. L. De Vinne, West End av. cor W. 76th st.
1891.....	De Vinne Press Building, Lafayette pl. cor 4th st.
1895.....	Studio for J. D. Smillie, 156 E. 36th st.
1895.....	Residence James Otis Hoyt, 310 W. 75th st.
1896.....	Residence F. J. Stimson, 312 W. 75th st.
1896.....	Residence P. D. Cravath, 107 E. 39th st.
1897.....	Residence Fredk. B. Pratt, 225 Clinton av, Brooklyn N. Y.
1898.....	Printing House, N. Y. Life Ins. Co., Townsend and Elm sts.
1898.....	Alfred Corning Clark Neighborhood House, Rivington and Cannon sts.

J. B. BAKER.

1892.....	United Charities Building.
1894.....	Presbyterian Building.
1896.....	Johnston Building.
1896.....	Extension Manhattan Co. Bank Building.
1897.....	Bank of Commerce Building.
1897.....	Extension to United Charities Building.
1898.....	Tower Building.

CHAS. I. BERG.

1897.....	Ambulance Station and Vaccine Laboratory, foot E. 17th st.
1897.....	Spenser Building, 28 W. 30th st.
1897.....	Coster Mausoleum at Woodlawn.
1898.....	Manhattan Building, Wall and Nassau sts.

BERG & CLARK.

1886.....	Seven houses, cor West End av and 75th st.
1886-92....	Huyler's Candy Factories, Irving pl and 18th st.
1887-8.....	Four apartment houses for Wm. Whitehead, n e cor 135th st and 7th av.
1888.....	Five houses, W. 82d st, n s, bet West End av and Riverside Drive.
1889.....	Five houses for R. Deeves on Manhattan Square North.
1893.....	Darling Building, 208 5th av.
1894.....	The "Arena," 39 W. 31st st.
1896.....	Gillender Building, Nassau and Wall sts.

WORKS OF CADY, BERG & SEE.

1882.....	Metropolitan Opera House, Broadway.
1883.....	Bridge in Central Park.
1885.....	Gallatin Bank, Wall st.
1887-1898..	Museum of Natural History.
1887-1890..	Presbyterian Hospital (additions to).
1889.....	St. Andrew's Church, West 76th st.
1893.....	Protestant Half-Orphan Asylum, 110 Manhattan av.
1894.....	Hudson St. Hospital.
1897.....	New York Skin and Cancer Hospital. 243 East 34th st.
1897.....	Home for Old Men and Aged Couples, Morningside Heights.



EMPIRE BUILDING.

Broadway and Rector Street.

(1898.)

Kimball & Thompson, Architects.

CARRÈRE & HASTINGS.

Bldg. Completed.	Location.
1892.....	Office building, Franklin and Hudson sts, for Walter Baker Co.
1893.....	Mail and Express Building, Fulton st and Broadway, for Elliot F. Shepard.
1894.....	Life Building, 19 W. 31st st, for Life Publishing Co.
1894.....	Residence, 11 E. 71st st, for R. M. Hoe.
1894.....	Residence, 819 Madison av, for Dr. C. A. Herter.
1895.....	Residence, 15 W. 56th st, for Mrs. Albert Young.
1896.....	Residence, 9 E. 72d st, for Henry T. Sloane.

(ASSOCIATED WITH W. B. CHAMBERS.)

1896.....	St. Nicholas Skating Rink, in 66th st.
1897.....	Fire-engine House, West 170th st.
1898.....	Fire-engine House, Gt. Jones st.
1898.....	Residence of O. G. Jennings, in 72d st.

M^R. CHAS. W. CLINTON (OF CLINTON & RUSSELL).

1876.....	Five houses opposite the Cathedral, 5th av and 50th st.
1876.....	Seventh Regiment Armory, Park av, 66th to 67th st.
1878.....	Metropolitan Trust Co.'s Building, Wall st.
1882.....	H. R. Bishop's house, 5th av, bet 69th and 70th sts.
1882.....	Wm. H. Guion's house, 47th st, n 5th av.
1883.....	Knickerbocker apartment house 5th av and 28th st.
1884.....	Mutual Life Building, Nassau, Cedar and Liberty sts.
1885.....	N. Y. Athletic Club, 55th st and 6th av.
1887.....	Central Trust Building, Wall st.
1888.....	Mrs. Herter's house, 70th st and Madison av.
1889.....	Wilks Building, Wall st.
1889.....	Bank of America, Wall st.
1889.....	Mutual Life Annex, Cedar and Liberty sts.
1890.....	Mechanics' Bank, Wall st.
1891.....	Farmers' Loan and Trust, William st.
1894.....	Continental Ins. Co., 44 and 46 Cedar st.
1894.....	Sheldon Building.
1893.....	Stokes Building.

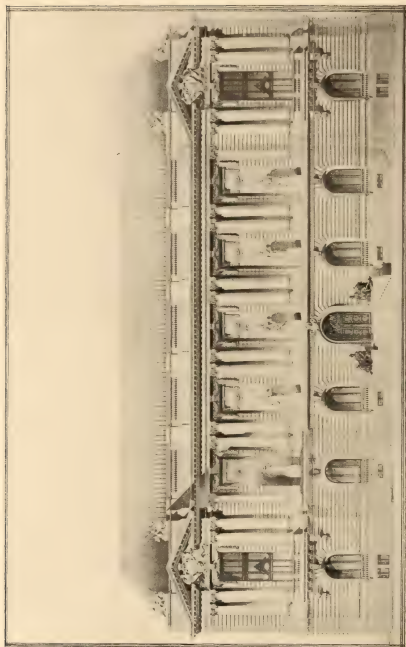
MR. W. H. RUSSELL (OF CLINTON & RUSSELL).

1892 and 1893.

The Rhinelander Building,	cor Rose and Duane sts.
Residence of W. W. Sherman,	cor 65th st and 5th av.
Row of 18 houses in W. 70th st	for Hoffman estate.
Apartment house 28th st,	for Mrs. Catharine Roche.
Warehouse for Rutherford	Stuyvesant, 13th st.

CLINTON & RUSSELL.

1894.....	Building for Society for Juvenile Delinquents, Randall's Isl- and, N. Y.
1895.....	Foff Lodging House, W. 53d st.
1895.....	Prescott Building, Nassau and John sts.
1896.....	Warehouse, 28-44 Laight st.
1896.....	Fahys Building, 29-31 Liberty st, and 54 Malden lane.
1896.....	Sempson Building, 63 and 65 Wall st.
1897.....	Rhinelander Power House, Nos. 232-238 William st.
1897.....	Building for New York Society for Improving Condition of the Poor.
1897.....	St. Bartholomew's Parish House Annex, E. 42d st.
1897.....	Five residences, Nos. 12 to 20 W. 65th st, for a syndicate.
1897.....	Four residences, 56th st and 5th av, for William Waldorf Astor.
1897.....	Buildings for Children's Aid Society, 527 and 529 E. 16th st.
1897.....	Residence, No. 20 W. 73d st for Thomas Diamond.
1897.....	Residence, No. 18 E. 77th st, for L. K. Wilmerding.
1897.....	Residence, No. 23 E. 56th st, for T. W. Porter.
1897.....	Residence, No. 24 W. 55th st, for Dr. Geo. A. Quinby.



ACADEMY OF FINE ARTS.
(Now building.)

Carrière & Hastings, Architects.

New York City.

Bldg. Completed.	Location.
1897.....	Residence, No. 16 W. 52d st, for Joseph Fahys.
1897.....	Residence, No. 40 E. 40th st, for R. M. Bull.
1897.....	Residence, No. 22 W. 73d st, for Dr. C. F. Hoffman.
1898.....	Graham Building, Duane and Church sts.
1898.....	Woodbridge Building, William, Platt and John sts.
1898.....	Black, Starr & Frost Building, s w cor 39th st and 5th av.
1898.....	Hudson Building, 32 and 34 Broadway and 69-71 New st.
1898.....	Exchange Court, Broadway and Exchange pl.
1898.....	Franklin Building, 9-15 Murray st, for Nathalie E. Reynal.
1898.....	Residence, No. 4 E. 62d st, for Wm. A. Read.

DE LEMOS & CORDES.

1884.....	Eden Musee, 23d st.
1887.....	Thomson Building, 38 Wall st.
1888.....	Store building, s e cor Grand and Forsyth sts.
1888.....	Store building, 143 Greenwich st.
1888.....	Building, n e cor Centre and Leonard sts.
1888.....	Arion Club House, Park av and 59th st.
1889.....	Store building, 215 E. 19th st.
1889.....	Store building for Elmer & Amend, 18th st and 3d av.
1889.....	Building, n e cor 11th av and 67th st.
1889.....	German Hospital, extension, 4th av and 77th st.
1890.....	Armeny Building, Fulton and Nassau sts.
1890.....	Building, Leonard st, extending to Baxter st.
1890.....	Residence for Mr. John Eichler, 169th st and Fulton av.
1891.....	Store building, 102-106 Wooster st.
1891.....	Building, Nos. 241-249 Centre st and Nos. 167-171 Elm st.
1891.....	Industrial Building, Lexington av and 43d st and 44th st.
1892.....	Building, 128-138 Mott st.
1892.....	Building, 127 Fulton st.
1892.....	Residence for W. Zinsser, 119 W. 57th st.
1893.....	Rothschild Building, West Broadway and Leonard st.
1893.....	Fulton Building, Fulton and Nassau sts.
1893.....	Office building, 15 Spruce st (former Recorder Building).
1893.....	Eagle Building, 41 and 43 Franklin st.
1893.....	Stone Building, 24 and 26 W. 13th st.
1894.....	Office building, cor Ann st and Park row.
1894.....	Building, 15 Walker st.
1894.....	Kuhn-Loeb Building, 27 and 29 Pine st.
1894.....	Store building, 704-706 Broadway.
1894.....	Building, 193 William st.
1894.....	Building, 70-80 Beekman st.
1894.....	Building, s w cor Bleecker and Broome sts.
1895.....	519-521 W. 58th st.
1896.....	Department Store Building, for the Siegel-Cooper Co., 6th av, 18th and 19th sts.
1897.....	Office building, s e cor Bleecker and Broadway.
1897.....	Building, 128-138 Mott st.
1897.....	Building, Vandam and Hudson sts.
1897.....	Residence for James Speyer, 257 Madison av.

JOHN H. DUNCAN.

1870.....	Residence of Richard Cunningham, 29 W. 74th st.
1887.....	Residence of J. Boskowitz, 20 W. 72d st.
1890.....	Residence of Hon. Oscar S. Strauss, 27 W. 74th st.
1892.....	The Hebrew Sheltering Guardian Society's Orphan Asylum, 150th st and Grand Boulevard.
1892.....	Memorial Arch and columns at drive entrance to Prospect Park, Brooklyn, N. Y.
1892.....	Residence of Kalman Haas, 7 East 69th st.
1892.....	Residence of J. C. McGourkney, 6 E. 69th st.



CATHEDRAL OF ST. JOHN THE DIVINE.
(Now building.)

Morningside Heights, New York City.

Heins & La Farge, Architects.

Bldg. Completed.	Location.
1892.....	St. Marguerita apartment house and residences and apartment opposite, Madison av and 84th st.
1892.....	Residence of Mrs. L. Lavanburg, 20 W. 77th st.
1893.....	Residence of Messrs. Shillito, Blair, McGowan and Nicho's 60th st. near 5th av.
1895.....	Residence of Mrs. Wm. A. Perry, 3 E. 56th st.
1895.....	Residence of Theo. Seligman, 37 W. 57th st.
1895.....	Carriage house, stable, etc., 105th st and Boulevard.
1896.....	The Court House on W. 54th st, prison on W. 52d st, near 8th av.
1896.....	Residence of J. C. Hoagland, 27 W. 51st st.
1896.....	Residence of Hon. Nathan Strauss, 27 W. 72d st.
1896.....	Residence of Jas. W. Whitney, Riverside Drive, bet 90th and 91st sts.
1897.....	The Grant Tomb, Riverside Park.
1897.....	Residence of Mrs. O. H. Kahn, 8 E. 68th st.

WORKS OF CYRUS L. W. EIDLITZ.

1887.....	Telephone Building, Cortlandt st.
1889.....	Western Electric Building, Thames st.
1890.....	Telephone Building, Broad st.
1890.....	Residences on West 86th st.
1891.....	Racquet Club, 44th st.
1892.....	Black Building, William st.
1894.....	Bank for Savings, 22d st and 4th av.
1894.....	Fidelity and Casualty Building, 99 Cedar st.
1896.....	Townsend Building, 25th st and Broadway.
1896.....	Telephone Building, Dey st.
1896.....	Bar Association, 44th st.
1898.....	Soc. of Civil Engineers' Club, West 57th st.

WORKS OF LEOPOLD EIDLITZ.

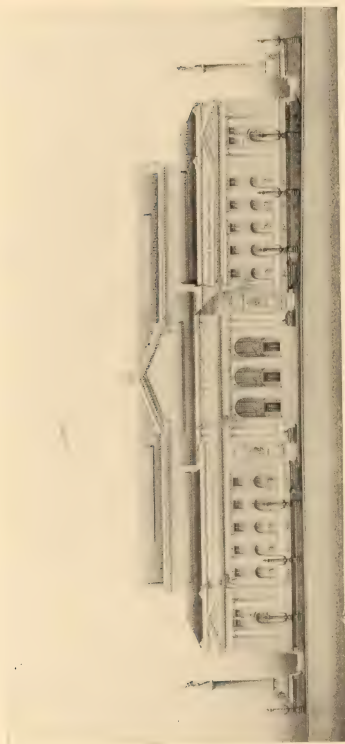
1846-50.....	St. George's Church.
1856.....	Old Produce Exchange.
1857-58.....	Office building, Broadway and Cedar st.
1864-65.....	Office building, Nassau st.
1868.....	Temple Emanu-el, 5th av.
1870.....	Church of the Holy Trinity, 42d st and Madison av.

WORKS OF ERNEST FLAGG.

1893.....	St. Luke's Hospital, Morningside Heights.
1893.....	Scribner Building, 5th av and 21st st.
1896.....	Residence of R. Fulton Cutting, Madison av and 67th st.
1897.....	Singer Building, Broadway and Liberty st.
1897.....	D. O. Mills' Hotel, No. 1, Bleecker, Thompson and Sullivan sts.
1897.....	D. O. Mills' Model Tenements, Sullivan st.
1897.....	City and Suburban Homes Model Tenements, 69th st.
1897.....	Mills Hotel, No. 2, Rivington and Chrystie sts.

R. W. GIBSON.

1889.....	U. S. Trust Co.'s Building, 45 Wall st.
1890.....	Fifth Avenue Bank, 530 5th av.
1890.....	Warehouse, 88 White st.
1891.....	N. Y. Ear and Eye Infirmary, 2d av and 13th st.
1891.....	St. Michael's Church, Amsterdam av and 99th st.
1892.....	Greenwich Savings Bank, 6th av and 16th st.
1892.....	Banks Building, 103 Front st.
1892.....	Collegiate Dutch Reformed Church, West End av and 77th st
1894.....	Buckingham Hotel, extension, 615 5th av.
1894.....	Church Missions House, 4th av and 22d st.
1895.....	Coffee Exchange.
1896.....	N. Y. Clearing House Exchange Building, 77 Cedar st.
1898.....	N. Y. Botanical Gardens, Museum, and other buildings, Bronx Park.



Fifth Avenue elevation.

NEW YORK PUBLIC LIBRARY.

Carrère & Hastings, Architects.

CHAS. C. HAIGHT.

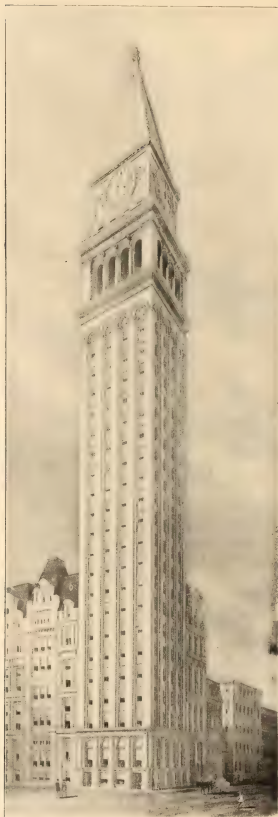
Bldg. Completed.	Location.
1878.....	Columbia College Buildings, 49th st and 4th av.
1880.....	Manhattan Eye and Ear Hospital, 41st st and Park av.
1882.....	Apartment house, Trinity Corporation, Charlton and Kings sts.
1882.....	Warehouse, Trinity Corporation, 440 Canal st.
1884.....	Brooks Building, 22d st and Broadway.
1884.....	Warehouse, Trinity Corporation, Vestry and Desbrosses sts.
1885.....	Bar Association Library, 8 W. 29th st.
1885.....	Warehouse, Trinity Corporation, Hudson and Spring sts.
1886.....	Apartment house, R. F. Cutting, E. 14th st.
1886.....	Adelphi Academy, Brooklyn.
1886.....	Trinity Vestry offices, Fulton and Chapel sts.
1886.....	Down Town Association Club House, Pine st.
1887.....	General Theological Seminary, 20th st and 9th av
1887.....	Cancer Hospital 106th st and 8th av.
1887.....	House, Geo. Hoadly, 33 E. 50th st.
1887.....	House, Hon. Edward Mitchell, 31 E. 50th st.
1888.....	Warehouse, 149 Franklin st.
1890.....	Warehouse, 55 and 57 N. Moore st.
1890.....	House, H. O. Havemeyer, 66th st and 5th av.
1890.....	House, D. Willis James, Park av.
1896.....	Warehouse, Garvin Co., Spring and Varick sts.
1896.....	Orthopoeedic Hospital, 59th st and Lexington av.
1897.....	Hospital for Ruptured and Crippled, 42d st and Lexington av.

HENRY J. HARDENBERGH.

1883.....	Hotel Albert, University place.
1883.....	Western Union Telegraph Co.'s Building, Broad st.
1884.....	Western Union Telegraph Co.'s Building, 5th av and 23d st.
1884.....	Dakota Apartment House, Central Park West.
1885.....	Astor Building, Wall st.
1887.....	Adelaide Apartment House, 635 Park av.
1890.....	London and Lancashire Fire Insurance Co.'s Bldg., William st.
1892.....	Warehouse, Broadway and 51st st.
1893.....	Office building, Front st.
1893.....	Hotel Waldorf.
1894.....	Warehouse (Flint & Co.), W. 23d st.
1895.....	John Wolfe Building, Maiden lane.
1896.....	Astoria Hotel.
1896.....	Manhattan Hotel, 42d st.

A. O. HODDICK.

1882.....	Nine-story apartment house, n w cor Madison av and 28th st.
1883.....	The Hawthorne apartment house, ten stories, 59th st, bet 6th and 7th avs.
1883.....	The Hubert apartment house, ten stories, 59th st, bet 7th and 8th avs.
1884.....	Twelve-story apartment house, Madison av and 30th st.
1884.....	Mt. Morris apartment house, nine stories, 130th st, near 5th av.
1885.....	The Chelsea apartment house, twelve stories, W. 23d st.
1885.....	The Central Park or Navarro apartments, eight buildings, fourteen stories, 7th av, 58th and 59th sts.
1886.....	Lyceum Theatre, 4th av and 23d st.
1886.....	Ten private dwelling houses, Lexington av and 89th st.
1887.....	The Croisic apartment hotel, 5th av and 26th st.
1887.....	Six private dwelling houses, 79th st, bet Columbus and Amsterdam avs.
1888.....	Five private dwellings, 80th st, w Lexington av.
1889.....	Apartment house, Nos. 1773 and 1775 1st av.
1890.....	Six private dwellings, 87th st, bet 1st and 2d avs.
1890.....	Six-story warehouse, 28 City Hall pl.
1891.....	N. Y. College of Music, 128 and 130 East 58th st.



A 500-FOOT OFFICE BUILDING.

George B. Post, Architect.

Bldg. Completed.	Location.
1891.....	Four private dwellings, 21 to 27 E. 77th st.
1891.....	Office building, 110 W. 40th st.
1892.....	The Milano apartment house, 125 W. 58th st.
1892.....	The Sevilla apartment hotel, 13 stories, 117 W. 58th st.
1893.....	Cammeyer Building, 6th av and 20th st.
1893.....	Apartment house, 8th av and 19th st.
1894.....	Eight-story store and loft building, 6th av and 15th st.
1897.....	Apartment house, 122 and 124 E. 83d st.
1897.....	Seven-story store and loft building, 27 and 29 W. 31st st.

HOWARD & CAULDWELL.

1896.....	Public Shelter for Corlears Hook Park.
1896.....	Residence for E. J. de Coppet, 314 W. 85th st.
1896.....	Shelter for Troops, Van Cortlandt Park.
1896.....	Hotel Renaissance, 43d st and 5th av.
1896.....	Gapstow bridge, over Smith pond, Central Park.
1896.....	Public Shelter and Overlook for Mulberry Bend Park.
New Building.	Public Lavatories at 72d st and 107th st and R verside Drive.
"	Fire Apparatus House, Forest av, above 160th st.
"	Young Woman's House, S. C. U., 49 W. 96th st.

WM. H. HUME & SON.

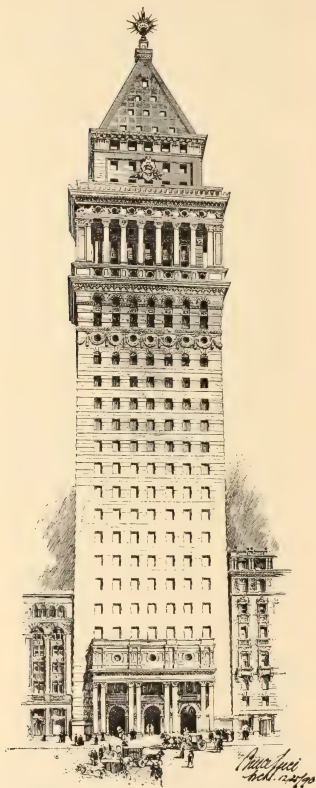
1887.....	Hotel Normandie, Broadway and 38th st.
1889.....	Emigrant Industrial Savings Bank, 49 and 51 Chambers st.
1889.....	Asylum St. Vincent de Paul, 211 W. 39th st.
1891.....	Wynkoop Building, cor Pearl and William sts.
1892.....	North River Savings Bank, 266 W. 34th st.
1893.....	Hotel Netherland, 5th av and 59th st.
1893.....	Lotus Club, 556 and 558 5th av.
1893.....	Store Building for H. C. Koch & Co., 132 to 140 W. 125th st, through to 124th st.
1894.....	Mutual Reserve Building, Broadway and Duane st.
1895.....	Scotch Presbyterian Lecture Hall Building, Central Park West and 95th st.
1896.....	First Church of Christ Scientist, 137 W. 48th st.
1896.....	Hebrew Orphan Asylum, Amsterdam av. 136th to 138th st.
1897.....	Spingler Building, 5, 7 and 9 Union Sq W.

WORKS OF RICHARD MORRIS HUNT.

1855.....	Rossiter residence, West 58th st, New York City.
1856.....	Studio Building, 51 West 10th st.
1870.....	Presbyterian Hospital, East 70th and 71st sts.
1870.....	Victoria Hotel, Broadway and 27th st.
1870.....	Bronson residence, Madison av.
1873.....	Tribune Building, Park Row.
1874.....	Coal Exchange, Cortlandt st.
1881.....	Guernsey Office Building, 160 Broadway.
1881.....	Marquand residence, Madison av.
1883.....	Statue of Liberty (pedestal and base).
1885.....	Ogden Mills' residence, 5th av and 69th st.
1891.....	Elbridge T. Gerry's residence, 5th av and 61st st.
1893.....	John Jacob Astor residence, 5th av and 65th st.

GEORGE MARTIN HUSS.

1879.....	Interior alteration, Rhineland estate, 171 6th av.
1880.....	Addition to Sheppard Knapp's store, 105 W. 13th st.
1880.....	Office building, Rhineland estate, 155 W. 14th st.
1881.....	Warehouse, Wm. R. Renwick, 166 West st.
1881.....	Capt. Geo. Chatterton, Westmoreland Cafe, 17th st and 4th av.
1882.....	Warehouse, Wm. R. Renwick, 112 Murray st.
1882.....	Residence Wm. Schauss, 238 5th av.



DESIGN FOR PROPOSED "SUN" BUILDING.
City Hall Square, New York City. Bruce Price, Architect.

- | Bldg. Completed. | Location. |
|------------------|---|
| 1882..... | Eight dwellings, n s 86th st, e 2d av, estate of Wm. C. Rhineland. |
| 1882..... | Warehouse, R. M. Stivers, 31st st and Lexington av. |
| 1882..... | Residence Mr. and Mrs. C. D. Thompson, 104th st and New av. |
| 1882..... | Residence Abner Osborn, 52 E. 81st st. |
| 1883..... | Warehouses, Mrs. M. C. King, 218-220 Greenwich st. |
| 1884..... | Residence E. P. Durant, 115 E. 18th st. |
| 1884..... | Row of apartment houses, Col. A. P. Ketchum, 128th st and 2d av. |
| 1884..... | Club house, Citizens' Bicycle Club, 313 W. 58th st. |
| 1884..... | Apartment house, executors estate Wm. R. Renwick, 89th st and 3d av. |
| 1884..... | Apartment house, Mrs. M. C. King, 88th st and 1st av. |
| 1884..... | Apartment house, Thos. Patten, 89th st and 1st av. |
| 1885..... | Warehouse, Thos. Patten, n w cor Reade and Hudson sts. |
| 1885..... | Residence H. H. Butler, 410 W. 69th st. |
| 1886..... | Stable, Fred. G. Bourne, 68th st and 10th av. |
| 1886..... | Office of Dr. J. Morgan Howe, 58 West 47th st. |
| 1887..... | First elevated ring riding academy of New York, 75th st and Lexington av. Thos. Patten. |
| 1888..... | One of the four successful competitors for the great Cathedral of St. John the Divine, on Morningside Park, N. Y. |
| 1889..... | Residence Mrs. Clara Harrison, 56 E. 53d st. |
| 1890..... | Apartment house, Garret Van Cleve, 149th st and Walton av. |
| 1890..... | Residence Dwight P. Clapp, 111 Hicks st, Brooklyn, E. D. |
| 1890..... | Parish house, Emanuel Church, Brooklyn, N. Y., Rev. Henry Ormond Riddell. |
| 1890..... | Residence Mrs. Julia Morss, 42 University pl. |
| 1890..... | Residence Dr. Aimee Raymond, 116 E. 30th st. |
| 1890..... | Residence Mr. and Mrs. C. C. Buel, 131 E. 116th st. |
| 1890..... | Residence Mrs. Emma A. Marson, 133 E. 16th st. |
| 1890..... | Pope Mfg. Co., Schwalbach Cycle Co., Prospect Park, Brooklyn. |
| 1892..... | Residence Lewis Morris, 12 W. 53d st. |
| 1893..... | Drinking fountain, Peter Cooper Park, 4th av and Bowery. |
| 1894..... | Estate of John Hooper, drinking fountain, 153th st, Edgecombe and St. Nicholas avs. |
| 1894..... | Residence Mrs. W. Evens, 52 W. 10th st. |
| 1894..... | Residence Mrs. G. Taylor, 103 W. 14th st. |
| 1895..... | Alteration, Madison Avenue Baptist Church, cor 31st st. |
- D. & J. JARDINE & JARDINE, KENT & JARDINE.**
- | | |
|-----------|--|
| 1896..... | Fifth Avenue Baptist Church, 46th st. |
| 1899..... | Fifth Avenue Theatre (burned down). |
| 1899..... | Stage, stable and armory, 9th av and 27th st. |
| 1870..... | Office buildings, 317 and 319 Broadway. |
| 1870..... | St. John's Methodist Episcopal Church, West 53d st. |
| 1871..... | Adelphia Hall, 7th av and 52d st. |
| 1871..... | Residence of Mrs. Keyser, 57th st., bet 5th and Madison avs. |
| 1872..... | Residence for Griffith Rowe, 685 5th av. |
| 1872..... | Presbyterian Memorial Church, cor Madison av and 53d st. |
| 1872..... | Baptist Home for the Aged, 68th st and Park av. |
| 1872..... | Bedford Presbyterian Church, Bedford, Westchester Co. |
| 1872..... | Residence A. Van Valkenburgh, 5th av, bet 64th and 65th sts. |
| 1872..... | Jardine apartment house, 203 and 205 W. 56th st. |
| 1873..... | Synagogue Rodoph Sholom, Lexington av and 63d st. |
| 1873..... | Ophthalmic Hospital and Homeopathic Medical College, 3d av and 23d st. |
| 1874..... | Fourth Reformed Church, 48th st, n 9th av. |
| 1874..... | Harlem Presbyterian Church, 125th st and Madison av. |
| 1874..... | Residence of Hy. Knickerbocker, 830 5th av. |
| 1875..... | University Medical College, 410 East 26th st. |
| 1875..... | Citizens' National Bank, 401 Broadway. |
| 1876..... | Park & Tilford's store, 917 Broadway. |



THE PULITZER BUILDING.

Park Row, New York City.

George B. Post, Architect.

(1892.)

Bldg. Completed.	Location.
1876.....	Kerbs & Spiess's factory, 2d av and 54th st.
1876.....	Castle Garden (rebuilt after fire.)
1877.....	Apprentices' Library, 18 E. 16th st.
1877.....	Mathews Block, 6th av and 45th st.
1877.....	National Broadway Bank (rebuilt), 237 Broadway.
1877.....	N. Y. County National Bank, 8th av and 14th st.
1877.....	University Medical College, 410 E. 26th st.
1877.....	B. Altman & Co., 6th av and 19th st.
1878.....	American Sugar Refining Co.'s offices, 115 Wall st.
1878.....	Residence of J. A. Bostwick, 800 5th av.
1878.....	Danser Mausoleum, Greenwood Cemetery.
1879.....	Sturges' Surgical Pavilion, Bellevue Hospital, New York.
1880.....	St. Marc Hotel, 5th av, 38th and 39th sts.
1880.....	Residence John L. Riker, 19 W. 57th st.
1880.....	Wholesale store, 370 Broadway (John Jay property).
1880.....	B. Altman & Co., 6th av and 19th st.
1880-1.....	Residence Adolph Bernheimer, 7 E. 57th st.
1881.....	Stage stable, 42d st, n Park av.
1881.....	Office building, 106 Wall st.
1881.....	American Horse Exchange, Broadway and 50th st.
1882.....	Office building, 110 Wall st.
1882.....	Residence G. W. Kidd, 853 Fifth av.
1882.....	B. F. Spink, apartment house, 14 and 16 E. 125th st.
1882.....	Palermo apartment house, 125 E. 57th st.
1883.....	Cornell Memorial Church, E. 76th st.
1883.....	Home for Aged and Infirm Hebrews, 121 W. 105th st.
1883.....	Emanuel Baptist Church, 47 Suffolk st.
1884.....	Park & Tilford's store, 5th av and 59th st.
1884.....	Residence Adolf Kerbs, 988 5th av.
1884.....	Office building, 47 Broadway.
1884.....	Scoville Mfg. Co., warehouse, 423 Broome st.
1885.....	Evelyn apartment house, cor Columbus av and 78th st.
1885.....	University Medical College Laboratory, 400 East 26th st.
1885.....	"Dundonald" Flats, 71 W. 83d st.
1886.....	42d St. R. R. stables, 42d st and Park av.
1886.....	Methodist Episcopal Church Home, Amsterdam av, 92d and 93d sts.
1886.....	Little Sisters of the Poor(Home for the Aged), 106th st and Columbus av.
1887.....	Belt Line Car Stables, 10th av, 53d to 54th st.
1887.....	Alpine Building, Broadway and 33d st.
1887.....	Warehouse, 13 Harrison st.
1887.....	Warehouses, 13 to 17 Jay st.
1888.....	Wilson Block, stores and flats, cor 125th st and 7th av.
1888.....	L. & S. Wormser, six buildings, 20 to 30 W. 84th st.
1888.....	Van Tassell & Kearney, sale stables, 12th and 13th sts, near 4th av.
1888.....	Training school for male nurses, 431 E. 26th st.
1889.....	Marcella flats and stores, 125th st and 5th av.
1889.....	Cutting Building, rebuilt, 15 and 19 William st.
1890.....	"Wilbraham" Building, n w cor 5th av and 30th st.
1890.....	Cutting Building, rebuilt, 18 New st.
1890.....	Residence, J. A. Bostwick, Nos. 801 and 802 5th av.
1890.....	Amos R. Eno, warehouse, 108 to 114 Wooster st.
1890.....	N. Y. Life Ins. and Trust Co.'s warehouse, 50 and 52 Lafayette pl.
1890.....	A. B. Darling, stores and factories, 23d and 24th sts, bet 6th and 7th avs.
1892.....	Bradbury Livery Stable, 117 and 119 W. 46th st.
1893.....	W. D. F. Manice office building, n w cor Pine st and William st.
1894-5.....	Yonkers Board of Education, two school houses.



THE DAKOTA APARTMENT HOUSE.

(1884.)

West 72d Street, New York City.

Henry J. Hardenbergh, Architect.

Bldg. Completed.	Location.
1894.....	Bonfils Building, n e cor 5th av and 21st st.
1895.....	Morosini Mausoleum, Woodlawn Cemetery.
1896.....	Store building, 718 5th av, cor 56th st.
1896.....	Gousset Building, 137 to 141 Prince st.
1896.....	Office building, 252 W. 138th st.
1896.....	Apartment house, 269 W. 136th st.
1896.....	Board of Education, Rye, N. Y., school house.
1897.....	Scotch Presbyterian Church Manse, 10 W. 96th st.

HENRY F. KILBURN.

1888.....	Mt. Morris Baptist Church, 5th av, 126th and 127th sts.
1889.....	Cyrus Clark's house Riverside Drive and 90th st.
1891.....	Park Presbyterian Church, Amsterdam av and 86th st.
1892.....	West End Presbyterian Church, Amsterdam av and 105th st.
1892.....	Colonial Club House, Boulevard and 721 st.
1894.....	Boulevard Baptist Church, Boulevard and 104th st.
1894.....	Mrs. James E. Martin's house, 803 5th av.
1894.....	Wm. V. Brokaw's house, 825 5th av.
1894.....	Mrs. C. L. Kernochan's house, 826 5th av.
1896.....	D. S. Brown's house, Riverside Drive and 102d st.

LAMB & RICH.

1880.....	Residence for H. O. Armour, 5th av and 67th st.
1881.....	The Harlem Club, Lenox av and 123d st.
1884.....	De Forest Building, 513-517 Broadway.
1885.....	The Mechanics' and Traders' Bank, Broome and Broadway.
1885.....	Pratt Institute, Brooklyn, N. Y.
1889.....	The Berkeley School, W. 44th st.
1889.....	Mt. Morris Bank and Safety Deposit Vaults, 125th st.
1889.....	Residence for C. O. Gates, Brooklyn, N. Y.
1890.....	Apartment House, 31st st and Broadway.
1890.....	Residence for Geo. Tangeman, Brooklyn.
1891.....	The Germania Fire Insurance Co.'s Building, Pine and Cedar sts.
1891.....	Residence for John Matthews, Riverside Drive and 91st st.
1893.....	The Veltin School, W. 74th st.
1895.....	Residence for Frank Tilford, W. 72d st.
1896.....	The Syndicate Building, Liberty and Nassau sts.
1896.....	La Rochelle apartment house, 75th st and Columbus av.
1896-7.....	Barnard College, 119th and 120th sts, Boulevard and Caremont av.
1897.....	The Union Assurance Co.'s Building, 35 Pine st.

LAURITZEN & VOSS.

1889.....	Residence for M. E. Smith, Bedford av and Rodney st, Brooklyn.
1890.....	Union League Club, Bedford av and Dean st, Brooklyn.
1890.....	Residence for W. Toerge, St. Marks av, n Kingston av, Brooklyn, N. Y.
1891.....	The Manhattan A Club, Madison av and 45th st, N. Y.
1891.....	Hanover Club, Bedford av and Rodney st, Brooklyn.
1891.....	Offerman Building, Fulton and Duffield sts, Brooklyn.
1891.....	Residence for W. G. H. Randolph, Hancock st and Marcy av, Brooklyn.
1892.....	Smith, Gray & Co., Fulton, Nevins and Flatbush av, Brooklyn.
1894.....	Batterman Building, Broadway, Flushing and Graham avs, Brooklyn.
1894.....	Vigellus Building, Broadway and Myrtle av, Brooklyn.
1895.....	The Smith Building, 24 E. 23d st, N. Y.
1896.....	Crescent A. Club, 25 and 27 Clinton st, Brooklyn.
1896.....	Residence for F. Mollenhauer, Bedford av and Taylor st, Brooklyn.
1896.....	Brooklyn Fire Dept., nine engine and truck houses.

Bldg. Completed.	Location.
1896.....	Wm. Dick apartment house, S. 9th st and Driggs av, Brooklyn
1896-7.....	Kings Co. Hospital, Dormitories, Storage and Administration Building.
1896.....	Residence for Jost Moller, St. Marks av, n Nostrand av, Brooklyn.
1896.....	Residence for Miss A. Moller, St. Marks av, n Nostrand av, Brooklyn.
1896.....	Residence for J. H. Dick, S. 9th st and Driggs av, Brooklyn.
1897.....	Recreation Pier Building on Dock, foot of N. 2d st, Brooklyn.

WORKS OF JAMES BROWN LORD.

1891.....	Delmonico's, Beaver and South William sts.
1891.....	Grosvenor, 10th st and 5th av.
1894.....	Bloomingdale Asylum.
1897.....	Delmonico's, 44th st and 5th av.
1897.....	Appellate Division of Supreme Court, 25th st and Madison av.

J. B. McELFATRICK & SON.

1884.....	Bijou Theatre.
1885.....	Standard Theatre
1888.....	Broadway Theatre.
1888.....	Amphion Theatre, Brooklyn.
1889.....	Harlem Opera House.
1890.....	Columbus Theatre.
1890.....	Park Theatre.
1892.....	Koster & Bial's.
1892.....	The Gayety Theatre, Brooklyn.
1893.....	Knickerbocker Theatre.
1893.....	Metropolitan Opera House (interior)
1893.....	Empire Theatre.
1893.....	The Bijou, Brooklyn.
1895.....	Olympia.
1895.....	Pleasure Palace.
1895.....	Montauk Theatre, Brooklyn.
1896.....	Murray Hill Theatre.
1896.....	Brooklyn Music Hall.
1897.....	Theatre Metropolis.

GEORGE B. POST.

1870.....	Braem House, n s E. 36th st.
1871.....	Equitable Life Assur. Society's Building, Broadway (construction only).
1871-2.....	Residence of Wm. R. Morgan, 8th av, cor 61st st.
1872.....	Black Apartment house, 28th st and 5th av.
1874-5.....	Chickering Hall, 5th av, n w cor 18th st.
1874-5.....	Western Union Building, Broadway, n w cor Dey st.
1875-6.....	New York Hospital, Nos. 9 to 21 W. 15th st.
1878-9.....	Brooklyn Long Island Historical Society.
1879.....	Cornelius Vanderbilt's stable, s s 58th st, e Madison av.
1879-80.....	Smith Building, Nos. 3 to 7 Cortlandt st.
1880-1.....	"Post" Building, Hanover st, w s, Exchange pl to Beaver st.
1880-1.....	No. 4 W. 58th st, Hutchinson (now Alexander) House.
1881.....	Produce Exchange.
1881-2.....	"Mills" (office) Building, Broad st, n e cor Exchange pl.
1882.....	Cornelius Vanderbilt's house, 5th av, n w cor 57th st.
1883-4-5.....	Cotton Exchange, in Hanover Square.
1884.....	"Mortimer Building," east cor New and Wall sts.
1884.....	Flats for Auchmuty (his sketch), 62d st and 2d av.
1884-5.....	Hamilton Club, Brooklyn.
1886-8.....	Equitable Life Insurance Co., lower Broadway (reconstruction and addition.)
1888-9.....	Times Building, Park row.
1889-90.....	Union Trust Building, Nos. 78 to 82 Broadway.
1890.....	Stores, Broadway, cor 4th st, for W. August Schermerhorn.

Bldg. Completed.	Location.
1890-1.....	Brooklyn Hay Exchange.
1890-4.....	C. P. Huntington's house.
1891-2.....	Theo. A. Havemeyer's Office Building, Dey to Cortlandt and Church streets.
1892-3.....	Cornelius Vanderbilt, addition, 5th av. s w cor 58th st.
1892.....	Pulitzer Building, Park row.
1896.....	Addition to Equitable Life Assurance Society's Building (lawyer's club).
1896.....	Crotona Park, N. Y., Municipal Building for Street Department for Department for Annexed District (unfinished).
1896.....	Weld Building, Broadway and 12th st.
1896.....	Stores, Broadway, cor Prince st, H. O. Havemeyer.
1896.....	Stores, Nos. 636 and 638 Broadway.
1896.....	Western National Bank, n w cor Nassau and Pine sts.
1897.....	St. Paul Office Building, Broadway, cor Beekman st.

R. H. ROBERTSON.

1883.....	Y. M. C. A. Building, N. Y. C.
1884.....	Madison Avenue M. E. Church, 60th st and Madison av.
1885.....	Lincoln Building, 14th st and Broadway.
1885.....	Studio Building, W. 55th st, city.
1887.....	St. James Church, Madison av and 71st st.
1889.....	Rutgers Riverside Church, Boulevard and 73d st.
1889.....	Academy of Medicine, W. 43d st.
1890.....	Mr. John H. Inman's house, 5th av.
1890.....	Maria Louisa Home, E. 16th st.
1892.....	Corn Exchange Bank Building, cor Beaver and William sts.
1892.....	St. Luke's Church, Convent av.
1892.....	Mendelssohn Glee Club, W. 40th st.
1894.....	American Tract Society Building, Nassau st.
1896.....	St. Paul M. E. Church, 86th st and West End av.
1896.....	Chas. T. Yerkes' house, 68th st and 5th av.
	Park Row Building, Park Row, N. Y. C. (now building.)
	N. Y. Savings Bank, 14th st and 8th av (now building.)

W. WHEELER SMITH.

1872.....	Collegiate Dutch Church, 45th st and 5th av.
1882.....	W. & J. Sloane's store, Broadway and 19th st.
1884.....	Residence of H. H. Cook, n e cor 78th st and 5th av.
1885.....	Manhattan and Merchants' Bank, 40 Wall st.
1886.....	College of Physicians and Surgeons, 59th st.
1888.....	Sloan Maternity Hospital, 59th st.
1889.....	Vanderbilt Clinic, 65th st.
1892.....	Wm. J. Syms Operating Theatre of the Roosevelt Hospital.
1894.....	Metropolitan Realty Building, William and Rose sts.
1896.....	Roosevelt Hospital, private pavilion.

ALFRED ZUCKER.

1883.....	Nos. 31 and 33 W. 57th st. (S. Rothschild).
1884.....	Nos. 126 and 134 Greene st.
1885.....	Nos. 28 and 30 E. 72d st (Chas. and Jos. Liebmann).
1885.....	No. 163 Greene st.
1885.....	No. 95 Bleecker st.
1885.....	Sidenberg Building, cor Crosby and Houston sts.
1885.....	Park av and 57th st.
1885.....	No. 433 Broadway.
1885.....	Bleecker and Greene sts, s e cor (burned)
1886.....	No. 2 E. 80th st (L. Weissmann).
1886.....	N e cor 22d st and 2d av.
1886.....	No. 126 Bleecker st.
1886.....	No. 85 Greene st, cor Spring.
1887.....	Industrial and Art School to Deaf Mute Institution on Lexington av and 67th and 68th sts (fire proof).

Bldg. Completed.	Location.
1887.....	Nos. 159 and 161 Greene st.
1887.....	Eight houses on W. 120th st, off Mount Morris Park.
1889.....	Nos. 171-177 Greene st.
1889.....	No. 2 E. 78th st (Ed. Lauterbach).
1889.....	No. 6 E. 78th st L. M. Hornthall).
1890.....	Nos. 97 and 99 Bleecker st.
1890.....	Nos. 98 and 100 Greene st.
1890.....	Nos. 190 and 190½ Greene st.
1890.....	200 and 202 Greene st.
1890.....	One block on n w cor 59th st and Columbus av.
1890.....	No. 716 Broadway.
1890.....	Nos. 551 Broadway and 120 Mercer st (Rouss Building).
1890.....	The Progress Club, n e cor 5th av and 63d st.
1891.....	Nos. 5 and 7 Washington place, cor Mercer st.
1891.....	N w cor Broome and Wooster sts.
1891.....	Cohnfeld Building, 92-94-96 Bleecker st.
1892.....	Nos. 22, 24, 26 Lafayette place.
1892.....	The Geraldine Building, 5 and 7 E. 16th st.
1892.....	No. 18 Waverley place.
1892.....	No. 12 Waverley place.
1892.....	Nos. 20 and 22 Waverley place, s e cor Greene st and Wash- ton place.
1892.....	The Banks Building, n w cor Bleecker and Wooster sts.
1892.....	Nos. 492 and 494 Broome st.
1892.....	No. 235 Mercer st.
1893.....	No. 27 Downing st.
1893.....	No. 27 Jay st.
1893.....	Nos. 28 and 30 Waverley place.
1893.....	Nos. 18 and 22 Washington place, cor Greene st.
1893.....	No. 712 Broadway.
1893.....	Cossitt Building, 495 and 497 Broadway and 60 Mercer st.
1893.....	No. 139 5th av.
1893.....	No. 256 5th av.
1894.....	Gray Building, cor Laight and Varick sts and St. John's lane.
1894.....	McCreery Building, 66-68 W. 23d st and 22d st.
1894.....	Decker Building, 33 Union square.
1894.....	Hotel Majestic, Central Park West, 71st and 72d sts.
1895.....	The Bolkenhayn, n e cor 5th av and 58th st.
1895.....	Hoffman House Laundry.
1895.....	Nos. 7, 9, 11 Marion st.
1895.....	No. 124 W. 23d st.
1895.....	University of the City of N. Y., Washington Square East.
1896.....	No. 458 Broadway, cor Grand st.
1896.....	Nos. 39 and 41 E. 62d st.
1896.....	The Merck Building, s e cor Clinton and University places.
1896.....	Baudouine Building, s w cor Broadway and 28th st
1896.....	New Hoffman House, Broadway and 25th st.
1897.....	Borgfeldt Building, on Wooster st, bet 3d and 4th sts.
1897.....	Annex to Deaf Mute Institute on 67th st.



MEDELSSOHN GLEE CLUB.
(1892.)

West 40th Street, New York City.

R. H. Robertson, Architect.



RUTGERS RIVERSIDE CHURCH.

R. H. Robertson, Architect.

Boulevard and 73d Street.

(1889.)



AMERICAN TRACT SOCIETY BUILDING.
(1894.)

Nassau Street, New York City.

R. H. Robertson, Architect.



MADISON AVENUE M. E. CHURCH

60th Street and Madison Avenue.

R. H. Robertson, Architect.

(1884)

PROMINENT ARCHITECTS OF THE DAY.

Buchman & Deisler.

The well-known firm of architects, Buchman & Deisler, of No. 11 East 59th street, has been in existence since 1887. It is composed of Albert Buchman, a graduate of Cornell University, and Gustav Deisler, who is a graduate of the technical schools of Stuttgart and Munich. Mr. Buchman, after his graduation in 1880, entered the office of Mr. A. J. Schwarzmann, well known as the architect of the Centennial buildings, Philadelphia. After six years he opened an office and began designing in his own name. Later Mr. Gustav Deisler, who had also been associated with Mr. Schwarzmann, joined forces with Mr. Buchman, and the union has been marked with unusual success.

In reviewing the work of Buchman & Deisler, it can readily be seen that in the Mercantile District of New York along Broadway and the adjoining streets between Duane and 14th streets, this firm has done much to add to the artistic appearance of the city. The firm has been especially successful in its plans for commercial building. In No. 714 Broadway, there is an eleven-story building on a twenty-five foot front; the solution could not be excelled. Another of their noteworthy works is that magnificent row of double stores, located at Nos. 580-596 Broadway. Other works are Nos. 610-618 Broadway; 628 and 630 Broadway, both six-story structures; the Montefiore Home, and Jacob Schiff's residence on Fifth avenue.

C. P. H. Gilbert.

Among the noted architects in New York whose reputations have become not only prominent in the State, but also throughout the entire country, Mr. C. P. H. Gilbert, of No. 18 Broadway, ranks among the first. His compositions embrace various well-known structures, all of which have been treated in a masterly manner. The compositions consist of no set architectural style, but are varied to best suit the solution of the problems. Mr. Gilbert's work is scholarly, refined, and in many cases eminently picturesque, as the numerous buildings, public, mercantile and residential, which he has designed, testify. In residences, all of the best type, Mr. Gilbert has been eminently successful.

H. J. Hardenbergh.

Mr. H. J. Hardenbergh unquestionably ranks among America's foremost architects. After studying seven years with Mr. Detlef

Lienau, of New York, a pupil of the famous Henri Labrosse, of Paris, Mr. Hardenbergh began to practise alone. One of the first of his successful compositions was the Geological Hall, together with the Chapel and Library of Rutgers College. Since that time he has designed such structures as the Astor Office Building, Wall street; Hotel Albert, Dakota Apartments, Western Union Building, the Waldorf Hotel, Hotel Manhattan, Astoria Hotel, John Wolfe Building, American Fine Arts Society Building, London and Lancashire Fire Insurance Co's Building, and an apartment house at Park avenue and 66th street. Mr. Hardenbergh has given New York some of its finest designs in French and German Renaissance.

Francis H. Kimball.

In the list of noted architects who have made New York the foremost architectural centre in America, Mr. Francis H. Kimball has long occupied a prominent place. He entered the office of his brother-in-law, a builder and contractor, in Haverhill, Mass., in 1862. There he acquired a knowledge of plain drawing, and an acquaintance with the practical side of building. In 1867 he entered the office of Louis P. Rogers in Boston, who within a few months after the beginning of Mr. Kimball's apprenticeship formed a partnership with Mr. Gridley J. F. Bryant, and in their office Mr. Kimball began the study of architecture. After eighteen months' service he was sent to Hartford by Bryant & Rogers to take charge of their Hartford office. In this capacity he prepared working drawings for the building of the Charter Oak Life Insurance Company, a granite structure, two hundred and seventy-five feet in length. During the construction of this building the firm was employed to build another business block for the Connecticut Mutual Life, which was to be fire-proof. For this building Mr. Kimball also prepared drawings. Three years after, he was engaged by Mr. James G. Batterson, of Hartford, and employed upon a competitive design for the State Capitol of Connecticut. On its completion he went to London to aid Mr. Burges, who had been appointed by Trinity College to design new buildings for it. Mr. Kimball was employed as the local architect, and in London he familiarized himself with the plans, so as to be able to supervise their execution on their completion in America. While the new buildings of Trinity College were being built, he was employed on other work in Hartford, the most notable of which was the Orphan Asylum.

In 1879, Mr. Kimball came to New York under an engagement to remodel Hoyt's Theatre, then known as the Madison Square Theatre. In the same year he formed a partnership with Mr. Thomas Wisedell, which lasted until the latter's death in 1884. During the copartnership the firm designed Harrigan & Hart's old theatre in Broadway; the Casino, Broadway and 39th street; the Yonkers Opera House; the Goodwin Building, in Hartford, and a new build-

ing for Trinity College. From 1884 to 1893, Mr. Kimball practised alone. During this period he designed many country houses, the Catholic Apostolic Church, the Montauk Club, in Brooklyn; the Corbin Building, Broadway and John street, and theatres in New London and Middletown. In 1893, Mr. George Kramer Thompson formed a partnership with Mr. Kimball, and together they entered into a competition for a new building for the Manhattan Life Insurance Company. Their plans were adopted. The principal works of the firm of Kimball & Thompson are the Manhattan Life Building, the Standard Building for the Standard Oil Company, the Empire Building, extensive alterations in the store of Messrs. B. Altman; costly mansion for Mrs. Waldo, at 72d street and Madison avenue; a store in Philadelphia, and a pumping station for the Indianapolis Water-Works.

The offices of the firm are located in the Manhattan Life Building, No. 66 Broadway.

David W. King.

It is an axiom among those who are in any way familiar with the building trade that the architect of the present day must combine the general knowledge of the engineer, mason, carpenter, and other members of the building craft, and possess in regard thereto business knowledge and capacity for management. The designs of an architect to a great extent depend not only on his creative abilities, but also on his power to comprehend practically the requirements of his clients.

It will be seen, therefore, that the architect to be successful needs possess original creative faculties, experience and executive powers. The college training, whereby theoretical knowledge is to a great degree obtained, usually is supplemented by a course of practical work in the draughting rooms of an active and progressive architect. A thorough training in more than one architectural office results in wider experience.

The subject of our sketch, Mr. David W. King, possesses the qualifications of which we have made mention. He was graduated from Cornell University in 1877, having taken a scientific course with a view of becoming an architect. On his graduation he entered a New York architectural office and familiarized himself with the different practical branches of the profession. During his preparatory career he was connected with prominent architectural firms in various capacities. He has served in the draughting rooms of Babb, Cook & Willard, Gambrel and H. H. Richardson, Thayer & Robinson, W. H. Miller and S. S. Beeman. In each of these offices he became acquainted and perfected himself in the knowledge of that special branch of architecture in which the firm was most successful. In October, 1896, Mr. King opened an office at No. 202 Broadway, and afterwards at No. 111 Fifth avenue. The building trade recognized soon that Mr. King was a thorough and capable architect. In the initial period of his career his compo-



625 BROADWAY.

David W. King, Architect.

(1898.)

sitions were largely heavy constructive work, in which warehouses and coal pockets and similar structures entered largely. In the next few years dwellings, municipal and business buildings formed a large share of the work. As an example of Mr. King's free treatment of French Renaissance the mercantile building No. 625 Broadway is probably one of the best. It is a twelve-story store, loft and office building, of skeleton construction. The foundations are of cantilever construction and heavy grill work. The Broadway front is of limestone, while the Wooster street front is of light brick, trimmed with limestone. The ground floor, in which a restaurant is located, is elaborately finished in mosaics and marble, with a special design in frieze work. While the treatment is free a good effect is produced.

He is the architect for the new ten-story building now in process of erection at the northeast corner of Fifth avenue and 20th street.

N. Le Brun & Sons.

The firm of N. Le Brun & Sons, of No. 1 Madison avenue, is one of the prominent firms of architects in this city. It was established by Mr. Napoleon Le Brun in Philadelphia, in 1843. He had studied under some of America's foremost architects for six years, preparatory to his beginning work for himself. In Philadelphia, his most prominent works are the Academy of Music and the beautiful Roman Catholic cathedral. In 1868 he moved to New York, where his designs for the Foundling Asylum and the Masonic Temple were chosen. In 1880, his two sons, Pierre and Michel, were admitted into the firm, and the partnership formed proved very strong. The Home Life Insurance Building, the Metropolitan Life Insurance Building, the Church of St. Mary the Virgin, which are among the important buildings in the city, are a few of the notable designs of the firm.

McKim Mead & White.

The firm of McKim, Mead & White, of No. 160 Fifth avenue, composed of Charles Follen McKim, William Rutherford Mead and Stanford White, stands pre-eminent in the ranks of great American architects. Each member of the firm, after graduating from an American university, studied architecture in the different art centres of Europe, and it was in 1880 the present firm was established. Although each member was comparatively young, the compositions emanating from their officewon marked favor throughout the entire United States. At the present time the firm employs over one hundred men in the draughting and specification departments. As the purpose of this sketch is not to record all of even the important works of this firm, it is enough to mention some of the firm's designs that illustrate the magnitude and importance of the firm's contribution to American Architecture: In Columbia College, the Library, Schermerhorn, University, Havemeyer, Physics,

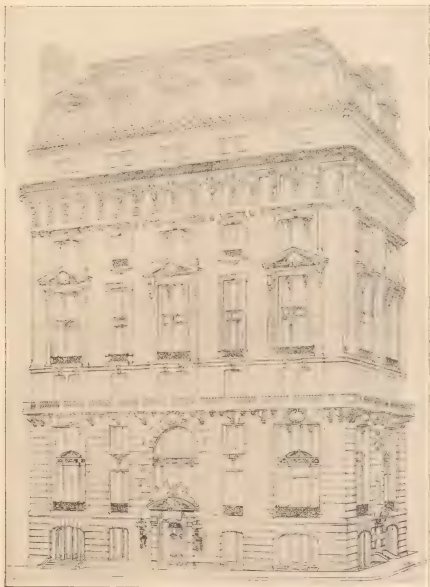
Engineering and University Hall buildings; the University of the City of New York; University of Virginia; Rhode Island State House; New York Life Insurance buildings in Kansas and Omaha; Madison Square Garden; Brooklyn Institute of Arts, Century, University, Algonquin, Metropolitan and Harvard clubs; Whitelaw Reid's residence; Imperial hotel; Tiffany residence; Cable Building, (Houston and Broadway); Boston Public Library; Washington Arch, in Washington Square Park; Mrs. Elliot F. Shepherd's residence, at Scarsboro; Judson Memorial Church; Warren Building, (Broadway and East 20th street); Villiard Houses, and the Deutscher Verein.

George B. Post.

Mr. George B. Post is an architect of national reputation, and his work forms one of the important chapters in American architecture. He has designed such buildings as the St. Paul Building, Equitable Life Assurance Building, Produce Exchange, Cotton Exchange, Times Building, World Building, Union Trust Building, D. O. Mills Building, on Broad street; Havemeyer buildings, on Broadway and Prince street, and Church, Dey and Cortlandt streets; C. P. Huntington's residence, on 57th street and Fifth avenue; Cornelius Vanderbilt's residence, on the opposite corner of the same street; Erie County Savings Bank, one of Buffalo's most imposing buildings, and the Manufactures and Liberal Arts Building, at the great Chicago World's Fair. It may be invidious to say that Mr. Post's name is to-day the one best known by profession and laity alike, but it is probably the fact. Mr. Post's reputation is closely connected with the development of the "sky-scraper" in this country. He designed the earliest examples of that type of structure—the chief office of the Western Union Telegraph Co., the Mills and the Post Buildings, for example. Those were among the first notable attempts to produce buildings that depended strictly upon the elevator for their serviceableness. They were startling innovations a quarter of a century ago, and the fact that they have been so far surpassed in the meantime is due in a very great degree to Mr. Post's ingenuity and activity.

The Singer Building.

It was somewhat surprising, not to say remarkable, in this epoch of the tall but unsightly office building that a ten-story structure should be built on so central and costly a site as that on which the new Singer Building now stands. But the course taken by the



SINGER BUILDING.

Northwest Corner Broadway and Liberty Street.

Ernest Flagg, Architect.

Singer Company in providing a home for itself has met with a proportionate amount of commendation from architects, builders, Broadway property owners, and the public generally. In the structure now almost completed the company can justly pride itself in having erected a building the architectural beauty of which is all the more remarkable in comparison with the monstrosities which have

recently been erected. The Singer Building, it is generally conceded, is the best specimen of an architectural composition in the lower section of the city.

The problem of erecting a ten-story building with a frontage of sixty feet on Broadway and one hundred and ten on Liberty street, was entrusted to Mr. Ernest Flagg, of No. 35 Broad street. The style chosen was that of the French Renaissance of the nineteenth century. The employment of this style of architecture admitted a treatment on a much larger scale than is usually employed. The grand and dignified appearance which strikes the observer at once is the evident result of this method of treatment. The building is fire-proof, and the material used in the basement and three lower stories is buff Indiana limestone, while red brick and limestone trimmings are the material used in the upper stories. The basement and first story can be used by a banking or some similar institution. The three top floors form the suite of offices of the largest manufacturing concern—the Singer Co.—in the world. The remaining stories comprise the rentable offices. Separating the three lower stories from above there is a rich and heavily ornate stone balcony, supported by ornamental consoles. The next story serves as a pedestal for the great windows extending through two stories above. The windows are filled in with an ornamental framework of cast-iron, each mounted by a pediment surrounded by heavy and rich architraves. The windows in turn support the stories above till we find a frieze of consoles carrying a balcony around the whole building, which supports a plain brick story, on which in turn is supported the curved roof.

The interior of the building is in keeping with the beautiful outside. The offices are most conveniently arranged and the well-known reputation of Mr. Flagg, the architect, is a sufficient voucher that the equipment of the building is the best to be obtained. The elevators are unusually large, and are built by the Otis company. The ventilation has been so arranged by Mr. Flagg that the atmosphere in every apartment will be changed every fifteen minutes. The arrangement of the large windows and halls afford excellent lighting qualities. As there are no inside offices, every office has direct light and ventilation. The architect has maintained through the whole interior of the building a style in harmony with the exterior, producing none of the petty economies of space. The offices as a result are unquestionably among the most desirable in the downtown business district in New York, and are especially adapted to banking, insurance and law offices, where large spaces, quiet surroundings and perfect elevator service are desired, together with easy access to all of the large corporations, law libraries, postoffice, and surface and elevated railroads, and ferry facilities.

The offices are being rented for the most part in suites of from two to four offices each, thus limiting the number of tenants on each floor and avoiding the consequent confusion so common in large buildings.

De Selding Bros. are the renting agents for the building.







